Industrial Equipment News

FOUNDED 1933

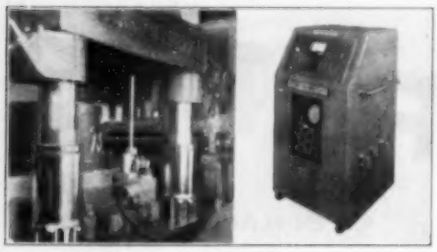
ORIGINAL REPORTER OF *What's New* IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

If you write make identify as **IEN - 5939**

GAGE . . Electronic equipment reads press loading, protects, counts

Source: HENRY & WRIGHT
758-62 Windsor St., Hartford 1, Conn.



Discloses facts not previously obtainable

Four strain gages mounted on the guide rods of the company's dieing machine, which is employed for high-speed progressive stamping operations, are connected through a bridge circuit to this new Dieometer equipment. It indicates press loading on an oscilloscope screen. It disengages the drive clutch in case a predetermined maximum load is exceeded. It counts those press movements that are actually productive and skips idle strokes.

A selector switch permits the operator to take readings of individual guide-rod loading at each of the four corners as well as the total sum in order to determine any off-center loading in the tools. A camera can be specified to observe the oscilloscope readings, which are triggered to center the trace at the point of instant maximum, so the record can be studied at leisure.

Records can be kept for future reference. Progressive dulling of the tools can be observed. Need for new tool design can be studied. The equipment is mounted on wheels so it can be rolled into position from one press to another. The switch that "triggers" the oscilloscope and counter mounts on the press bed between two of the guide posts.

If you write make identify as **IEN - 5940**

FASTENING . . Plastic slide design for use on plastic sheet products

Source: FLEXIGRIP INC.
104 E. 61st St., 1st Floor, New York 21, N. Y.

Flexigrip is the trade name

Two identical vinyl plastic tapes are extruded to produce two formed fingers along one edge. The tapes are overlapped along these fingers and a nylon or metal slider is moved along them to open or close the connection. The fingers seal in water-tight, air-tight and dust-proof assembly in closed position as indicated to the right.

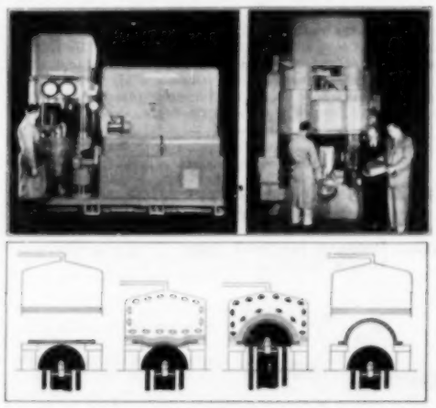
The fastening is suited for assembly by heat sealing or stitching on plastic articles such as mattress and pillow protectors, garment bags, food covers, raincoats and boots, pouches, kits and handbags, dust-excluding enclosures. The connection will withstand a pull to about 30 lb. per inch of length without separating.

Production is in 3-ft. cut lengths or in continuous lengths of 500 ft. mounted on reels. The long material can be cut to length and sealed or sewn across to provide top and bottom stops. Available forms include water white, transparent shades and a variety of colors.

If you write make identify as **IEN - 5941**

PRESS . . Hydraulic machine forms work into fluid backed diaphragm

Source: CINCINNATI MILLING MACHINE CO.
Marburg & Kline Sts., Cincinnati 9, Ohio



Pictured and detailed in publication M-1759

Hydroform trade names a new hydraulic press in which a punch member is moved upward through a mating draw ring to apply forming pressure beneath a sheet-metal blank. This pressure forms the blank upward against flexible resistance set up by a fluid-backed diaphragm which forms the lower face of a retractable upper head.

The diaphragm applies clamping pressure against the draw ring while automatic controls establish and vary the fluid pressure within the head as the forming operation proceeds. At the top limit of the stroke the action is reversed. The punch is stripped from the work and the upper head is retracted to remove the finished piece and place a new blank.

One of two machine sizes takes a blank diameter to 12 in. and provides 7 in. of maximum draw depth. The other takes a 26-in. blank and provides 12 in. of maximum draw depth. Both machines will form blanks of ⅜-in. steel and provide maximum diaphragm pressure of 15,000 lb. per square inch.

Operating rate is 180 and 90 cycles per hour. Oil is employed as the hydraulic medium. The two machines take about 200 and 400 gal. respectively. The flexible diaphragm is made up of a wear sheet and an inner member that confines the hydraulic oil in the upper head. Both can be replaced quickly. A feature is that movement can be stopped at any point to check a try-out in initial tool design.

If you write make identify as **IEN - 5942**

LUBRICATING . . Synthetic coolant for metal forming, grinding, machining

Source: CARBIDE & CARBON CHEMICALS CO.
30 E. 42nd St., Room 1213, New York 17, N. Y.

Sample available upon request

Ucon H-660 is a new fluid for use in connection with metal-working operations. It represents further development of the company's line of synthetic lubricants previously described IEN-4457-48. The fluid forms a clear solution with water at room temperature. It can be used in the ratio of 2 to 2½ parts of water for general use. It applies also without water dilution in specific cases.

One part of the fluid to as much as 33 parts of water have produced excellent results in grinding. Tests have been successful in connection with drilling, tapping, turning, sawing, milling, punching as well as in drawing stainless steel, carbon steel, aluminum and bronze. Fluid left on the work provides a rust-protective coating for ferrous parts.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

JUNE, 1952

VOL. 20 No. 6

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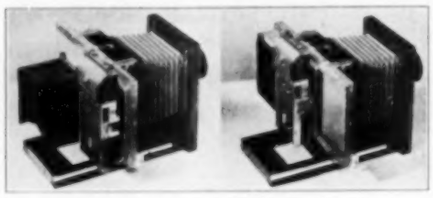
If you write maker identify as IEN-5943

PHOTOGRAPHING . . Slide attachment mounts Land back on a standard camera

Source: BURKE & JAMES INC.
319-23 S. Wabash Ave., Chicago 4, Ill.



For a quick look to be sure

New attachment mounts a viewer and a Polaroid Land camera back on a slide to fit a standard 5 by 7-in. or 8 by 10-in. commercial view camera. The arrangement trades the Land camera lens for the larger lens and the interchangeable arrangement of lenses on the commercial camera while retaining ability to immediately develop a picture on Land film. It is possible to "proof" a scene and quickly observe any points that may have been missed or should be changed prior to exposing a film or plate with the larger camera.

If you write maker identify as IEN-5944

FASTENING . . Slide type latch locks over center in holding position

Source: SIMMONS FASTENER CORP.
1010 N. Broadway, Albany 1, N. Y.

No springs

New size known as No. 3 has been added to the company's Link-Lock latch, previously described IEN-5633-52. It is smaller than the two previous sizes in the line and has a rating to 90 lb. for pull-down pressure on gaskets and to 300 lb. for tension loading.

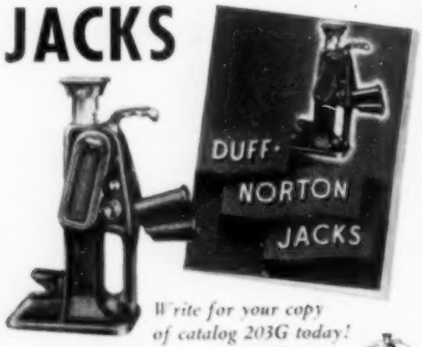
Movement between open and closed positions is by turning an off-center pin. This movement carries the pin a little beyond locking center. The engagement latch can be varied in design detail to meet given requirements. Various finishes are also subject to specification.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-5945

For all heavy lifting • lowering • pushing • pulling

DUFF-NORTON JACKS



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• IN ELECTRICAL EQUIPMENT

• New Kidde 5 pound Dry Chemical Fire Extinguisher can be *recharged with air* at any air pump. It has more fire-killing action than any unit of its size.

Kidde

Walter Kidde & Company, Inc.
636 Main St., Belleville 9, N. J.

If you write maker identify as IEN-5948

Your practical guide to better pipe and tube joining

BULLETIN No. 17 has all the information you need to make strong, leak-tight, low-cost pipe and tube assemblies and repairs with EASY-FLO and SIL-FOS, the modern low-temperature silver brazing alloys. It shows approved methods of cutting and fitting — cleaning — fluxing—heating and flowing the alloys.

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HANDY & HARMAN 82 Fulton St., New York 38, N. Y.

If you write maker identify as IEN - 5949

You don't like to be a pacifist, do you?

Well, the deafened don't either. And, as a result, hearing aid makers have moved heaven and earth to make their instruments smaller and more compact. Yet more powerful!

Smaller hearing aids meant smaller vacuum tubes, of course. And smaller tubes meant . . .?

They meant problems! For inside these sub-miniature tubes are three tiny ladder-like grids where the softest whisper steps up to be amplified to scale the wall of silence. And these Lilliputian "ladders" are formed of microscopically fine wire. Wire nowhere near as thick as a human hair.

Now wire like this just doesn't come in any metal.

To get it, you've got to find a metal that (1) has the strength and ductility needed to be worked into such fine parts; that (2) has the electronic characteristics needed for tube elements.

Finding such a metal takes doing, you may be sure. But searching and testing intensively, the hearing aid makers did it: they found the solution to their problem in Inco's Pure Nickel.

A Cue for You? Write for "Standard Alloys for Special Problems"—Summarizes the important facts and data on 12 INCO Nickel Alloys in one booklet. Gives a quick comparative guide to judge for yourself which alloy may be a ready answer to your problem, too.

It's yours for the asking.

THE INTERNATIONAL NICKEL COMPANY, INC.
75 Wall Street, New York 5, N. Y.

If you write maker identify as IEN - 5951

SECURITYFLEX

the toughest portable cord

Securityflex's heavy neoprene jacket resists water, oil, crushing and abrasion. As a result —Securityflex* lasts longer, increases the use of fine tools and saves you money by requiring fewer replacements.

Anaconda Wire & Cable Company,
25 Broadway, New York 4, New York.

the right cable for the job **ANACONDA®** WIRE AND CABLE

*Trademark

If you write maker identify as IEN - 5952

BROWNING

First Again!

WITH "UNBREAKABLE" MALLEABLE IRON SPLIT TAPER BUSHINGS

in BROWNING GRIPBELT SHEAVES

FLEXIBLE AND RIGID COUPLINGS and BROWNING PAPER PULLEYS

Write for the name of the BROWNING distributor near you

BROWNING MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY, U. S. A.

If you write maker identify as IEN - 5953

BUILDING . . Translucent sheet for windows, skylights, partitions

Source: RESOLITE CORP.
Route 19, Zelienople, Pa.

No charge for cutting

Cut pieces to fit standard and special windows are now available in both standard and extra-heavy weights in the company's translucent flat plastic sheet. It is made of polyester resins reinforced with Fiberglas. The material is available in eight standard colors. Pale green is recommended for windows because of its high transmission of light combined with excellent diffusion.

The plastic is particularly suited to take the place of glass in buildings subject to severe vibration, concussion, radiant heat. It is not subject to attack by fumes, acids, alkalies.

Installation is the same as for glass using glazer's points and putty, or glazing compound and spring clips or angles when steel sash and doors are involved. A flat diamond pattern 42 by 96 in. overall is available to glaze partitions.

If you write maker identify as IEN - 5954

BEARINGS . . Precision steel balls in gaged selected matching tolerances

Source: PIONEER STEEL BALL INC.
35-39 Mill St., Unionville, Conn.

Gage detects, rejects, selects

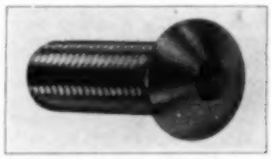
Se-Jector Gaged designates a new line of precision steel bearing balls in which individual balls pass through a sequence of multiple gaging for selection in closely matched tolerances. Any ball lacking the required sphericity as well as any with flats too tiny to be detected by usual means are rejected.

The matched accuracy speeds up assembly and minimizes assembling costs. The matched balls assure good bearing performance in service. Sizes are 1/16 to 3/4 inch.

If you write maker identify as IEN - 5955

FASTENING . . Button head screw, socket design, No. 8 to 5/8 in. sizes

Source: STANDARD PRESSED STEEL CO.
P. O. Box 555, Jenkintown, Pa.



Threads are rolled

Good appearance is combined with strength in this new addition to the company's Unbrako line of socket-type screws. It is made of heat-treated alloy steel and is available in seven sizes from No. 8 to 5/8 inch. The 1/2 and 5/8 in. sizes carry National Coarse and National Fine threads. Each screw is made in a range of lengths.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5956

SAFETY EQUIPMENT FOR ALL INDUSTRIES

M&M RAIL CLAMPS

Used for car stops, on loading platforms, temporary sidings, cars on grades and traveling cranes.

THIS The Dangerous Way OR THIS THE SAFE WAY

Used and recommended by leading Steel Companies, Manufacturing Plants, Mines, Grain Elevators, Cement Plants and Quarries.

WRITE FOR BULLETIN NO. 4

IPCO *Safety Equipment for all Industries*

INDUSTRIAL PRODUCTS COMPANY

2801 N. FOURTH ST. • PHILADELPHIA 33, PA.

If you write maker identify as IEN - 5957

LUBRICATION ECONOMY

"This Lubricant Extended Bearing Life 50%"

Republic Aviation Corp. further states, "*It was also found that, during test, LUBRIPLATE increased efficiency of machines twenty per cent by reducing friction loss. Republic has been using LUBRIPLATE Lubricants successfully for the past eight years.*"

1. LUBRIPLATE reduces friction and wear
2. LUBRIPLATE prevents rust and corrosion
3. LUBRIPLATE is economical to use

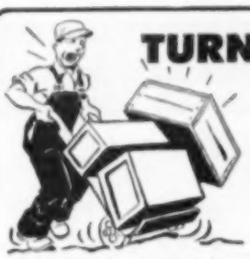
Write today for case histories of savings made through the use of LUBRIPLATE in your industry.

LUBRIPLATE DIVISION
Fiske Brothers Refining Co.
Newark 5, N.J.—Toledo 5, Ohio

The Different LUBRICANT!

DEALERS EVERYWHERE, consult your Classified Telephone Book

If you write maker identify as IEN - 5958



TURNOVER LIKE THIS COSTS YOU MONEY!

Spilled loads, trucking delays, underfoot hazards are costly. There's no substitute for a *real* heavy-duty floor—and that means concrete, *good* concrete.

Rebuild worn-out floors over week-end (no plant tie-up) with 'Incor' 24-Hour Cement—ready to use in 24 hours, saves a week or more. Faster thorough 'Incor'* curing means stronger, longer-lasting floors.

Write for booklet, "Heavy-Duty Floors"—address Lone Star Cement Corporation, 100 Park Avenue, New York 17.

*Reg. U. S. Pat. Off.

LONE STAR CEMENT CORPORATION

Offices: Abilene, Tex. • Albany, N. Y. • Bethlehem, Pa. • Birmingham • Boston Chicago • Dallas • Houston • Indianapolis • Kansas City, Mo. • New Orleans New York • Norfolk • Philadelphia • Richmond • St. Louis • Washington, D. C.

If you write maker identify as IEN - 5959

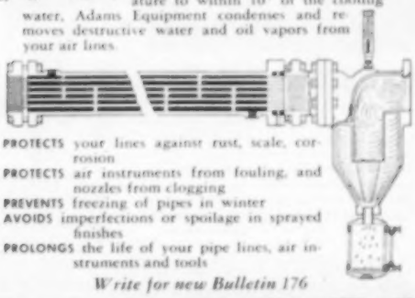
You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator

with ADAMS Aftercooler and Cyclone Separator

● Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



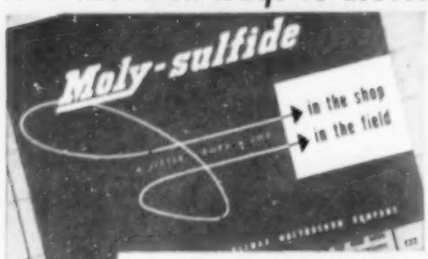
PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

If you write maker identify as IEN - 5960

154 ideas on ways to use...



154 varied applications of molybdenum sulfide in the shop and in the field are described in a new booklet now available. This solid-film lubricant has demonstrated unique anti-friction properties under conditions of extreme pressure, high velocity, elevated temperature, or chemical attack.

The 40-page booklet contains the records of solved lubrication problems—some might solve your own.

Moly-sulfide
A LITTLE GOES A LOT
The lubricant for extreme conditions

Climax Molybdenum Company
500 Fifth Avenue, New York City 36, N.Y.

MS-6

Industrial Equipment News

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Vol. 20 JUNE, 1952 No. 6

GEA-5789

"Progressive Mechanization" titles a new assembly of useful illustrated information to help you profit by improvements you can make in your industrial processes. It outlines an improvement setup starting with operations as you find them. It recommends a step-by-step procedure for transition from hand work through simple mechanization, improved mechanization, automatic control to continuous processing. It suggests six steps to start the program, four more to get it into active operation. It adds information on outside sources for assistance.

Available on request, so you can weigh the possibilities in your own plant activities, is a 16-page manual, GEA-5789. You can mark that number on your Reader Service Form with this issue of IEN and we will forward for you. Or you can write to General Electric Co., Dept. 6X-201, Schenectady 5, N. Y.

The complete program, 24th in General Electric's "More Power to America" series, reflects the company's own experience in promoting production improvements in its plants. It is designed for use by industrial firms, machinery makers, electric utilities, consulting engineers, contractors, trade associations. It consists of three basic parts of which the manual is one. The other two are a 16-mm. sound-color motion-picture film and a survey form and check list. We suggest that you ask for a copy of the manual to start.

A handy kit has been assembled to contain a print of the film, five copies of the manual and twenty-five copies of the survey form. Supplementary publications are included on motors, control, power distribution. The entire presentation can be purchased outright from General Electric at cost. It also is available for single showings through the company's apparatus offices.

The film explains the concept of progressive mechanization through the medium of a professional methods engineer. Interesting and impressive examples are employed to dramatize mechanization. The story starts with hand operation and progresses through the steps to a continuous process in the sequence laid out by the manual. Running time is 27 minutes.

The survey form and check list is in single sheets, one of which is included in the manual. On one side it tabulates questions that can be asked to advantage in each of the progressive steps including the subject of power distribution. On the other side it is divided so you can list the subjects you wish to investigate and check the current step of mechanization in which you find them. This list then becomes your basis for action.

Some of the action will be self-evident. Some of it can be started after your department heads have had an opportunity to study the facts. Some of it will come from outside contacts you will establish. All of it will appear surprisingly simple after you have it organized.

We just want to add one suggestion to those contained in the program itself. This is that you "ask IEN" for help on any subject involving application of new equipment, materials or services. Our records contain many thousands of items among which we will be happy to look as soon as we have your specific request.

W. E. Irish

If you write maker identify as IEN - 5963

LOW COST, ORGANIZED STORAGE SPACE
32-DRAWER (96 COMPARTMENTS) Metal Storage Units

CRYSTAL CLEAR OR MATCHING GRAY PLASTIC DRAWERS

MODEL J-32
$11.95 F.O.B. AKRON
15½" high 6" deep 12½" wide

HUNDREDS OF USES:
Useful in every shop, lab, office, stockroom, store, home, assembly line . . . in radio, TV, photography and ignition work.

Orderly storage for small parts, bolts, nuts, drills, tools, carbide tips, buttons, thread, paper clips, labels, pens, rubber bands, stamps, films, photo supplies, negatives, fishing tackle, artist supplies, medical supplies, marine supplies, drugs, jewelry, etc. Safety catch ends accidental spilling, identity card drops into slot in drawer front.

Made in 7 sizes.

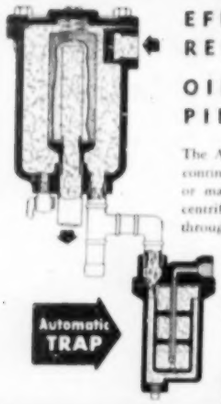
J-64	64 drawers	192 compartments	$22.95
J-48	48 drawers	144 compartments	18.75
J-32	32 drawers	96 compartments	11.95
J-24	24 drawers	72 compartments	9.95
J-16	16 drawers	48 compartments	6.95
J-12	12 drawers	36 compartments	5.25
J-8	8 drawers	24 compartments	3.95
AK-8	Adapter Kit for dividing 8 drawers LENGTHWISE (crosswise dividers FREE with each cabinet)		38

SEND FOR FREE DESCRIPTIVE FOLDER

AKRO MILS, INC. P.O. BOX 989 AKRON 9, OHIO

If you write maker identify as IEN - 5961

Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES
OIL, WATER
PIPE SCALE

The Adams *Poro-Stone Filter* gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely, without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation.

Write for complete data Bulletin 176.

R. P. ADAMS CO., INC.
219 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

If you write maker identify as IEN - 5964

S-A Car Pullers

Save Time, Cut Costs

If you have your own switch track, you can use an S-A Car Puller. No need to use a gang of men or wait for a switch engine. *One man can shift or spot up to six loaded cars under normal conditions.* Powerful capstan will also pull or lift other heavy loads at 45 feet per minute.

Write for bulletin 1339

STEPHEN S-A ADAMSON MFG. CO.

Tellevel Bin Level Controls • Car Loaders
SACO Speed Reducers Car Pullers • Winches
SealMaster Ball Bearings

231 Ridgeway Ave., Aurora, Illinois

If you write maker identify as IEN - 5962

Get your WATER LEVEL GAUGES from CRANE

No. 610 Water Level Gauge of polished brass with Pyrex glass. Working Pressure: 175 pounds.

They're precision-made with the same care that goes into every Crane Valve you buy!

Here's an item that usually rates small attention in an over-all piping program. But make no mistake, there's nothing lacking in quality when you get it from Crane. Materials are the finest—workmanship the best, to assure the service and satisfaction you expect from a product that bears the Crane name. See your Crane Representative or Crane Catalog for complete details.

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

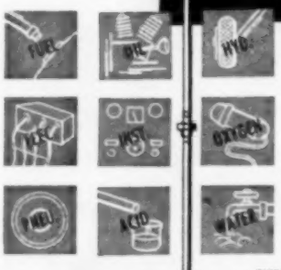
CRANE *Everything for Every Piping System*

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

If you write maker identify as IEN - 5965

throw your wrench away

CONNECT or DISCONNECT *any* fluid or electric line *without* a wrench



Join or separate any line with your fingers. You do it in seconds instead of minutes, when you use leakproof WIGGINS Inst-O-Matic couplings. We design to meet your requirements.

SUBMIT YOUR PROBLEM. WIGGINS Inst-O-Matic couplings can reduce your costs. Write today. There's a qualified representative near you.

Wiggins
Aircraft Division
E. B. WIGGINS OIL TOOL CO. Inc.
3424 E. Olympic Blvd., Los Angeles 23

INST-O-MATIC COUPLINGS

If you write maker identify as IEN-5966

LOW-COST FINGERTIP SPEED CONTROL with LOVEJOY variable SPEED PULLEYS

Speed up or slow down equipment while machines are running — make material or production changes without losing time and labor. Easily installed on old or new machines. Sizes fractional to 8 H.P. Ratios to 3:1 infinitely variable. Also investigate the new Lovejoy Tilting Motor Base. Adjustable width and length to accommodate all fractional motors up to ¾ H.P. Low Price.

Send for catalog and complete data.

LOVEJOY FLEXIBLE COUPLING CO.
5014 W. Lake Street Chicago 44, Illinois
Also Mfrs. Lovejoy Universal Joints and Lovejoy Flexible Couplings

If you write maker identify as IEN-5967

Clean CONVEYOR BELTS Last far Longer! INSTALL SA

Multiple Blades Keep Belt Clean and Dry

SPRING-TYPE **CONVEYOR BELT CLEANER**

• Removes wet or dry material from belts before they can be ground into belt by return pulleys and idlers. Adjustable to fit any conveyor. No moving parts, no power required. Easily installed by your own plant personnel. *Cost little, saves a lot!*

MAIL COUPON FOR FULL DETAILS

STEPHENS-ADAMSON MFG. CO. (S-A)
Standard Products Division
231 Ridgeway Ave., Aurora, Ill.
Please send me Bulletin 651 on Conveyor Belt Cleaners.
Name
Company
Address
City Zone State

If you write maker identify as IEN-5968

TAILORED TO KUPPENHEIMER'S FLOOR NEEDS!

PABCO MASTIPAVE
AMERICA'S NO. 1 LOW-COST LONG-LIFE FLOOR COVERING

"Pabco Mastipave floor covering is installed in our main trucking aisles and also in our men's and women's rest rooms," says Jesse Nitka, Factory Manager, B. Kuppenheimer & Co., Inc. – one of the nation's foremost clothing manufacturers.

"We are very well satisfied with the way these Pabco Mastipave floors are standing up under traffic. They look as well today as the day they were laid. We would not hesitate to recommend this type of flooring to anyone desiring a good wearing floor surface."

TAKES THE POUNDING OF MILLIONS OF FEET

Every building needs Pabco Mastipave! For 25 years, the Nation's blue chip industries, public carriers, hospitals, public school systems have demonstrated that Pabco Mastipave – both regular and non-slip Grip-Tread types – costs little, looks good, wears even better! Grip-Tread Mastipave is sold in roll goods only – regular Mastipave is available in roll goods and tiles.

SEND NOW FOR THE FULL STORY OF MASTIPAVE!

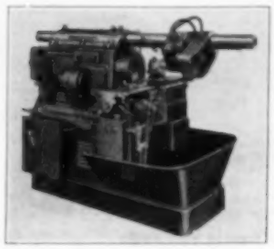
PABCO PRODUCTS, INC.
New York 16 • Chicago 54 • San Francisco 19
Mail to Dept. I, nearest office!

GENTLEMEN: Without cost or obligation to me, please send folder, "Every Building Needs Pabco Mastipave."
NAME CITY
ADDRESS STATE

If you write maker identify as IEN-5969

LATHE . . For cut-off operations, bar stock to 4 in., pipe to 3½ in.

Source: BARDONS & OLIVER
1139-43 W. 9th St., Cleveland 13, Ohio



Work length to 6 feet

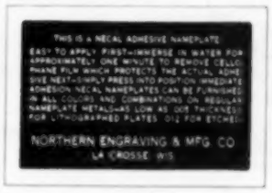
Bar stock or pipe fed through the spindle of this new cut-off lathe is gripped by a collet chuck on the spindle nose and is limited axially by an adjustable length stop carried on an overarm. Tools are set up on front and rear slides to cut off and chamfer. The machine is available with capacity to 3-in. bar stock or 2½-in. pipe and with rating to 4-in. bar stock or 3½-in. pipe. It will produce 43 pieces per min. in ¾-in. pipe on a set up to cut nipple blanks 6 in. in length, using roller cutters, and chamfering both ends. It will produce 12 pieces of 3-in. pipe on the same basis.

Separate motor-driven pumps provide hydraulic pressure for the chuck and for the slide movements. Four operating speeds range from 85 to 1,100 rpm. Pick-off gears add another four speeds within the same range. Lathe-type cut-off tools or roller cutters apply interchangeably on the slides. Operating adjustments are made by locating trip dogs in a slot on the front slide. The machine is equipped for wet or dry operation. Operating controls are centered at a pushbutton station on the housing side.

If you write maker identify as IEN-5970

NAMEPLATE . . Made of metal with film protected adhesive backing

Source: NORTHERN ENGRAVING & MFG. CO.
552 Shaeffer St., La Crosse, Wis.



Ask for sample plate

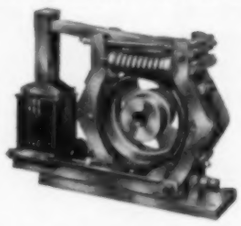
Neal trade names a new adhesive which the company applies to the back of its new lines of lithographed and etched metal name plates. The adhesive provides means to secure the nameplate permanently to a metal, plastic, painted, glass or wood surface after immersing the plate in water for about a minute to remove a cellophane film that protects the adhesive and presents a smooth non-adhesive face until time for application. After the plate is pressed into position adhesion takes place immediately. Permanent bond is achieved in a few minutes.

Color and finish combinations, data on the plate and overall plate sizes are available to specification in gages minimum at 0.005 in. for lithographed plates and 0.012 in. for etched plates. In addition to the regular line, the company is prepared to supply adhesives that are chemically activated for applications subject to heat or unusually severe service.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-5971

TROMBETTA SOLENOID CORP.
331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.



SB-373 SHOE BRAKE
10" WHEEL, 5" Face, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE CAPACITY 3 to 24,000 FT.-LBS.

AVAILABLE IN SPRING SET OR MAGNETICALLY SET WITH OIL IMMERSED AND EXPLOSION PROOF SOLENOIDS

EIGHT LINES OF SOLENOIDS, RECIPROMOTORS AND SEMOTORS

If you write maker identify as IEN-5972

THE EASY AND ECONOMICAL SOLUTION TO HEATING GASES AND PROCESS AIR

CHROMALOX *Electric* HEATERS

WANT MORE KNOW-HOW? Get Catalog 50. It's filled with useful heating data.

For Accurate Temperatures Up to 1000°F Maintained by Thermostat with Manual or Automatic Control

Here is reliable, immediate and continuous heat for drying, curing and baking ovens that give you the temperatures you need. Easily installed in round or rectangular ducts for heating air and gases under forced circulation. Parallel fin design dissipates maximum heat with minimum turbulence of air stream. Moisture proof types available.

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.
See *Chromalox Strip Heaters Advertisement, Page 11*

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN-5973

STOP ACCIDENTS with BRADY SAFETY SIGNS

Here's an AMAZING BRAND NEW SAFETY SIGN that will be welcomed by Safety Men! Brady Safety Signs stick to wood, glass, metal, concrete, etc. without moistening. May be applied to any clean surface in a jiffy. No screws, nails, bolts or skilled help necessary. All you do is peel from card, apply where wanted and the sign is up to stay.

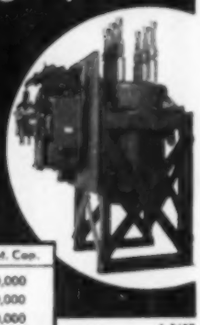
Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

MANUFACTURERS OF SELF-STICKING PRODUCTS
W.H. BRADY COMPANY
1655 E. SPRING STREET • CHIPPEWA FALLS, WIS.

If you write maker identify as IEN-5974

For Interrupting Capacities 100,000 to 500,000 Kva



ALLIS-CHALMERS TYPE DZ INDOOR OIL CIRCUIT BREAKERS

Rated Kv	Rated Amperes	Kva Int. Cap.
7.2	600, 1200, 2000	100,000
13.8	600, 1200	150,000
13.8	1200	250,000
13.8	1200, 2000	500,000

A-3687

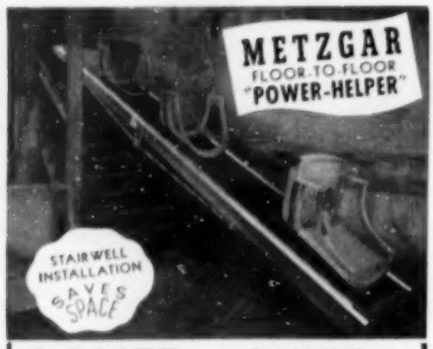
THESE INDOOR BREAKERS are widely used for station and industrial service. *Raptor* arc interrupting devices minimize contact burning and oil deterioration. Silver-plated main current carrying contacts and special alloy arcing contacts provide long life. Mechanically trip-free operator provides instant breaker operation under all fault conditions.

For complete information on these circuit breakers call your nearest A-C sales office, or write to Allis-Chalmers, Milwaukee 1, Wisconsin. Ask for Bulletins 71B6179 and 71B6129.

Raptor is an Allis-Chalmers trademark.

ALLIS-CHALMERS

If you write maker identify as IEN - 5975



SAVED $3,044 OVER COST OF ELEVATOR

WRITE— for Suggestion. Give height, floor to floor and horizontal space available . . . Also maximum unit load.

- Maintenance — Zero
- Operating Cost — Negligible
- 500% Faster Loading and Unloading
- Safer than Elevator
- Flexible, with two-way Controls
- Prompt Delivery — Easy Installation

METZGAR CO. METZGAR

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES • REEL DOLLIES & END-WOOD WHEELS.

417 Douglas, N. W.

GRAND RAPIDS 4, MICH.

If you write maker identify as IEN - 5976

MORE PRODUCTION..SAME SPACE

A well-known metal partition manufacturer faced the problem of increasing production without enlarging building. New and better handling methods were obviously needed. They chose an American MonoRail overhead handling system as the best answer to increase capacity without increasing space and with less handling labor. Now, this American MonoRail system handles the steel components from receipt of raw materials, through finishing to shipping. The system boosted production, cut handling labor, improved space utilization, reduced material damage, bettered working conditions, and improved production control.

Let an American MonoRail engineer show you how it can be done in your plant.

THE AMERICAN MONORAIL COMPANY

13111 Athens Avenue • Cleveland 7, Ohio

If you write maker identify as IEN - 5977

QUICK ANSWERS

TO YOUR QUESTIONS ABOUT STAINLESS TUBING & PIPE!

The Carpenter Stainless Tubing Data Book contains over 90 pages of useful information on subjects such as:

- Corrosion Resistance
- Heat Resistance
- Heat Transfer
- Fabrication
- Sizes & Gauges
- Tolerances
- Special Shapes
- Assembly
- General Physical Properties

For your copy of the Carpenter Stainless Tubing Data Book, send us a note on your company letterhead, indicating your title. Or return the coupon today.

THE CARPENTER STEEL COMPANY

Alloy Tube Division, Union, N. J.

Please send me a copy of the Carpenter Stainless Tubing Data Book.

NAME _____ TITLE _____
(Please Print)

COMPANY _____

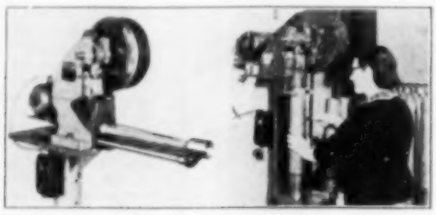
ADDRESS _____

CITY _____ ZONE _____ STATE _____
(Firm name and title must be on coupon.)

If you write maker identify as IEN - 5978

PRESS . . Special assembly of the company's 4-ton punch press

Source: BENCHMASTER MFG. CO.
1833-37 W. Rosecrans Ave., Gardena, Calif.



For any required work height

Half-Press designates new assembly of the company's previously developed punch press in which only about one-half of the press frame is employed as a standard unit and the balance of the machine is built up and tooled to meet special requirements. The upper portion includes the ram assembly, the crank, the flywheel, the motor drive and a clutch if one is required.

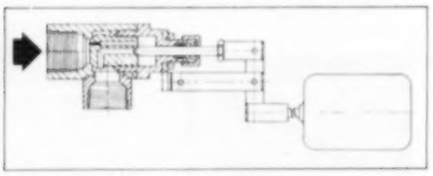
In some cases, as in the nibbling set-up to the left in the illustration, the clutch is omitted and the press operates continuously at 285 strokes per min. to trim the end of a shell case positioned over a mandrel-type fixture.

In the illustration to the right the press bed is located 18 in. below the punch by employing a T-section frame beneath the half-press assembly. This press expands shellcase noses.

If you write maker identify as IEN - 5979

VALVE . . Float operated, pilot design, for liquid level control

Source: ASSOCIATED VALVE & ENGINEERING CO.
1150-2 W. Marquette Road, Chicago 21, Ill.



Float controls piston position

Incoming flow to this new valve, Series 1127, bears against the end of a piston closing the main inlet port while a small amount passes through a port in the piston itself to equalize pressure on both sides. At the same time the float operated stem holds closed a second port through the piston connecting to the outlet. Falling liquid level permits the float to move downward, retracts the stem, relieves line pressure at the back of the piston so it moves away from the main seat and flow is established through the valve.

Valve sizes range from ⅜ to ¾ in. for operation on 15 to 200-lb. pressure at temperatures not more than 500 deg. F. Construction is in stainless steel but other materials can be specified. A complete valve can be placed inside a vessel. The fulcrum can be changed for opening on rise of level rather than fall, should this be required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5980

For Quick, Permanent Roofing
on any type of structure

TRUSCON FERROBORD STEEL ROOFDECK

This strong, lightweight, steel roofdeck can be applied to any flat, pitched or curved roof structure. Large areas can be covered quickly. The members are so designed and formed that each unit firmly interlocks with the adjoining unit along the full length, achieving the maximum in lateral distribution of concentrated loadings. The members are fabricated in units long enough to span over three or more purlin spacings.

Ferrobord is manufactured from both 20-gage and 18-gage copper-bearing strip steel. Each unit is 6 inches wide and has a depth of either 1½" or 1¾". WRITE FOR FREE BOOKLET!

TRUSCON MARK OF MERIT PRODUCTS

TRUSCON STEEL COMPANY
1094 Albert Street, Youngstown 1, Ohio
Subsidiary of Republic Steel Corporation

If you write maker identify as IEN - 5981

di-acro PUNCH

NEW DOUBLE PURPOSE PRESS

Available in two sizes, 6" and 12" throat depth

Now you can punch holes of various shapes as large as 4" diameter in 16 gauge steel—also blank, draw, emboss, form,—all with the new DI-ACRO Punch. It is ideal for both experimental and production work.

The precision ground triangular ram of this double purpose press prevents punch head from turning, assuring perfect alignment at all times.

A Turret Stripper of exclusive DI-ACRO design automatically strips material from punches of all shapes. Roller Bearing cam action develops 4-ton pressure with minimum effort. Adjustable gauges assure exact location of holes.

Send for "DIE-LESS DUPLICATING" *Catalog*

Gives the full story of the DI-ACRO Punch, and also DI-ACRO Benders, Brakes, Shears, Rod Parters, Notchers, as well as the new DI-ACRO Vari-O-Speed Powershear and Hydra-Power Bender.

DI-ACRO is pronounced "DIE-ACK-RO"

DI-ACRO DIE-LESS DUPLICATING

O'NEIL-IRWIN MFG. CO.
318 EIGHTH AVENUE • LAKE CITY, MINN.

If you write maker identify as IEN - 5982

Oxweld

PORTABLE FLAME-CUTTING MACHINES FILL A VARIETY OF SHOP REQUIREMENTS

This Oxweld CM-16 is designed for oxy-acetylene flame-cutting of steel plate up to 4 inches thick. It travels directly on the work and cuts circles automatically—hand-guided, it cuts irregular shapes. Operated on track this machine cuts straight lines. Adaptors are available for straight-line cutting on thick steel or for beveling. The CM-16 weighs only 45 pounds and is low in price. Write for catalog, Form 4487.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

If you write maker identify as IEN - 5983

for • SPRAYING • WASHING • RINSING • COOLING • AIR CONDITIONING

Get the most out of your Spraying Equipment with minimum power . . . with efficient spraying.

Use Yarway Nozzles. No internal vanes or other restrictions to clog or hinder flow.

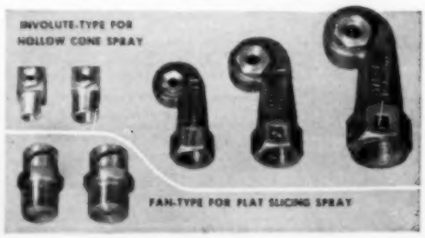
Wide range of standard sizes and capacities. Cast or machined from solid bar stock.

Thousands in use. Write for Bulletin N-616.

YARWAY

SPRAY NOZZLES

YARNALL-WARING COMPANY
122 Mermaid Avenue, Philadelphia 18, Pa.



If you write maker identify as IEN-5984

"LET'S SPECIFY **STAYNEW** INTAKE FILTERS

They Give Us Positive Protection . . . They won't need
Regularly Scheduled Maintenance . . . They're Easy
to Clean on the Job . . . Efficient over a Wide Range of Loads
They're not Affected by Temperature Change
There's no Oil Carry-Over
OUR EQUIPMENT WILL LAST LONGER!"

MODEL D
Intake Filter

Staynew Intake Filter's *Positive Protection* stops carbon accumulation and needless wear by keeping dust and dirt out of air intakes. And Staynew Filters frequently operate two or more years *without maintenance*. Specify Staynew and lengthen equipment life—increase productive time.

Write for Complete Booklet on Staynew Intake Filters.

Representatives in Principal Cities

DOLLINGER CORPORATION
3 Centre Pk., Rochester 3, N. Y.

ALL TYPES OF FILTERS FOR EVERY INDUSTRIAL NEED

If you write maker identify as IEN-5985

SIMPLIFY tough PULLING jobs

Pull Rod or Screw Inserted through UNIQUE "CENTER HOLE"!
Ram is drawn in a straight, torque-free pull through Ram. Ram is its own back up! Less rigging time—more effective power!

10 to 100 ton capacities.

"Center-Hole" in Rams of 30-ton and greater capacities.

Simplex Re-Mo-Trol

HYDRAULIC PULLERS
PUMPS AND REMOTE CONTROLLED RAMS

If it can be pulled, Re-Mo-Trol can pull it—easier and faster! Pulls liners, sleeves, shafts, gears, etc. SAFER remote control. Also lifts or presses. Can save its cost on a single tough job!

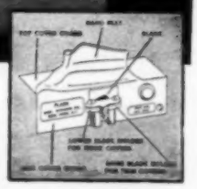
WRITE FOR BULLETIN: HYDRAULIC 51

Simplex Jacks

TEMPLETON, KENLY & CO.
1012 South Central Avenue • Chicago 44, Illinois

If you write maker identify as IEN-5986

Amazing
FLASH BOX OPENER
Opens Any Carton Quicker . . . Cleaner



Exclusive patented blade holder adjustable to varying thicknesses of carton covers.

THE ONLY CARTON OPENER THAT GIVES YOU ALL THESE ADVANTAGES:

Penetrates exactly under the outer cover thickness • Protects contents of carton • Cuts clearly to permit re-use • Prevents accidents • Saves time • Eliminates fatigue. *Already accepted by leading industries.*

Retail Price
$1.75

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

If you write maker identify as IEN-5987

SCREW DRIVING . . Hand tool reads torque while driving screw

Source: APCO MOSSBERG CO.
100 Lamb St., Attleboro, Mass.

It tells how tight

Torque measurement for this new screw driver can be specified at a number of maximum points between 6 and 24 inch ounces. The tool consists of a handle and driving shank with the torque mechanism enclosed to indicate by means of a pointer on a dial at the handle. The shank takes various sizes of interchangeable bit.

If you write maker identify as IEN-5988

BRONZE . . Copper silver alloy particularly for instrument manufacture

Source: HANDY & HARMAN
80-84 Fulton St., New York 7, N. Y.

Technical details upon request

New alloy containing 94 per cent copper and 6 per cent silver is now available in round wire from 0.100 in. in diameter down to fine gages and in flat wire to a maximum width of ⅛ inch. The alloy is supplied in heat-treated and cold-worked condition. It is particularly suited for use in spring parts that also require high electrical conductivity and for instrument parts which can be blanked from the narrow strip.

The material cuts clean, provides a fine finish and is sufficiently ductile to withstand some forming operations. Tensile strength ranges from 140,000 to 165,000 lb. per square inch. Electrical conductivity is 70 per cent of the International Annealed Copper Standard.

If you write maker identify as IEN-5989

WELDING . . Arc electrode holder, plastic insulated, has 300 amp. rating

Source: TWECO PRODUCTS CO.
P. O. Box 666-A, Wichita 1, Kansas

Single unit $5

Model A-732 is new addition by the company to its line of arc electrode holders, previously described IEN-7568-47. The new unit features the company's Super-Mel formed plastic insulation, keyed and secured in place to stand rough service. This insulation is made of layers of glass cloth bonded with Melamine resin that will not carbon char.

The new holder takes 1/16 to 7/32 in. electrodes. It connects by solder and clamp to its cable. It weighs 18 oz. and measures 9¼ in. in overall length.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-5990

HOW AMERICA OUT-PRODUCES The WORLD

3 American Industry—Puts Flow into production at every possible operation

One of the principal factors in keeping things on-the-move is correctly engineered conveyors.

Logan equipment delivers material and parts at convenient working heights, dispatches the product without manual effort to the next operation, puts-flow-into-production in countless American plants. Remember too, you get that "something extra" in engineering and design when you specify Logan Conveyors.

Write for nearest field engineer to call.

Logan Conveyors

LOGAN CO., 276 CABEL ST., LOUISVILLE, KY.

If you write maker identify as IEN-5991

GET THIS CATALOG NOW . . .

For valuable information on high-speed process measurement and control

Wherever unusual instrument speed is required in measuring, recording or automatically controlling, the vacuum tube actuated Speedomax is ready to do the job. L&N Catalog ND46(1) contains 40 pages of information on Speedomax Type G instruments. Details of ranges, specifications, types of equipment for particular jobs, etc., are catalogued in reference form. For specific help on a specific problem, feel free to call on an L&N engineer, or write to Leeds & Northrup Company, 4905 Stenton Avenue, Philadelphia 44, Pa.

LEEDS & NORTHRUP COMPANY, 4905 STENTON AVE., PHILA. 44, PA.
LEEDS & NORTHRUP
MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES

Jet Ad ND46(2)

If you write maker identify as IEN-5992

need a BUCKET ELEVATOR?

If you do, whether for replacement or a new installation, the place to find it is in the complete Chain Belt line. Rex® Standard Bucket Elevators are of highest quality, built to proved designs. They will handle virtually any type of free-flowing material and are available in a wide variety of types and capacities.

For more information, write today to Chain Belt Company, 4675 W. Greenfield Ave., Milwaukee 1, Wisconsin.

REX CHAIN BELT COMPANY — **Chain Belt** COMPANY OF MILWAUKEE

Atlanta • Birmingham • Boston • Buffalo • Chicago • Cincinnati • Cleveland • Dallas • Denver • Detroit • El Paso • Houston • Indianapolis • Jacksonville • Kansas City • Los Angeles • Louisville • Midland, Texas • Milwaukee • Minneapolis • New York • Philadelphia • Pittsburgh • Portland, Oregon • Springfield, Mass. • St. Louis • Salt Lake City • San Francisco • Seattle • Tulsa • Worcester

If you write maker identify as IEN-5993

BLAW-KNOX STEEL GRATING
in the Front Rank of Industry
ON ALL 5 COUNTS

OPEN SPACE • STRENGTH
LONG LIFE • CLEANNESS
SAFETY

Blaw-Knox Steel Grating is electroforged into rigid, one-piece panels, using twisted cross bars for firm footing. Bring your open steel flooring problems to Blaw-Knox for expert help. Bulletin 2365 sent on request.

BLAW-KNOX DIVISION
OF BLAW-KNOX COMPANY
2050 Farmers Bank Bldg.
Pittsburgh 22, Pa.

BLAW-KNOX *Electroforged* STEEL GRATING

If you write maker identify as IEN - 5994

If you write maker identify as IEN - 5995

AUTOMATIC OILERS

Don't let "HIDDEN" Lubrication Costs Take Money From You . . . Here's how wasteful and costly "trust-to-luck" hand oiling can be:—Consider loss from drippage . . . Product spoilage . . . Dangerous, slippery floors . . . Oil fouled commutators and windings . . . Cost of labor to apply . . . Lost production . . . Cost of damaging friction . . . Costs of premature wear and parts replacement . . . Manhours required for repairs, etc. Install inexpensive TRICO Oilers . . . They pay for themselves many times over.

WRITE FOR FREE OILER CATALOG

Save Power . . . Save Fuses . . . Save Clips . . . With
TRICO "KLIPLOK" CLAMPS
For Fuse Clips

"Lock Like A Vise" . . . Prevent arcing and heating at contacts . . . Reduce premature fuse blowings . . . Unnecessary shutdowns and repairs . . . Lost production . . . Quickly and easily installed.

WRITE FOR FREE BULLETIN NO. 6

TRICO FUSE MFG. CO., Milwaukee, Wis.
In Canada: IRVING SMITH LIMITED, Montreal

If you write maker identify as IEN - 5996

Important points to look for when you buy trolleys
You get them all when you buy Link-Belt

LINK-BELT

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8.

If you write maker identify as IEN - 5997

TRUCK . . Spade attachment to handle a steel strapped carton

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio

Slides under cover

Carton Lift designates a new attachment for the company's fork-lift truck. It mounts two upright spades with beveled top edges on the lift carriage. These spades are moved forward with the truck to come against the side of a carton that includes a steel-strapped flanged cover. Upward movement inserts the spades between the strap and the carton wall so the carton can be lifted from the floor. Shoes near the base of the carton slide on the spade arms and take the inward thrust resulting from the off-center lift. Cartons of this type normally weigh about 350 lb. loaded. The new attachment will handle two of them, one on top of the other. Lowered height is 37¼ inches.

If you write maker identify as IEN - 5998

METAL . . Laminated strip developed to replace scarce nickel

Source: GENERAL PLATE DIVISION
41-45 Forest St., Attleboro, Mass.

The steel forms readily

Alfer, Alnifer and Nifer are three new laminated metals in strip form. They are intended to replace strip stock made of nickel which is in restricted supply. Principal application is in stampings for electron tubes. All three employ a low-carbon core are made in three thicknesses measuring 0.005, 0.007 and 0.010 inch. Weight per hundred linear feet per inch of width ranges from 1.46 to 3.46 pounds.

Alfer employs aluminum alloy clad on both sides of the carbon-steel core. Alnifer consists of aluminum on one side and nickel on the other side of the steel. Nifer has nickel on both sides of the steel. In each case the cladding is about 10 per cent on each side of the strip.

If you write maker identify as IEN - 5999

JACK . . Hand ratchet design weighs 42 lb. and has 10-ton rating

Source: TEMPLETON KENLY & CO.
1012 S. Central Ave., Chicago 44, Ill.

Simplex A1022 is a new unit in the company's line of hand-operated jacks. It employs an aluminum housing and is designed for both top and toe lift. Lowered height is 20½ inches. Lift is through 12 inches. Lowered height of the toe is 2 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6000

If you write maker identify as IEN - 6001

The Largest Producer of DIE CUT STAMPINGS IN SMALL LOTS
Present Production
450-500 NEW DIES PER MONTH

Leadership built on excellent quality and fine service at lowest possible cost.

SEND YOUR PRINTS OR SAMPLE BLANKS FOR QUOTATION

DAYTON ROGERS Manufacturing Company
2836 13th Ave., S.
MINNEAPOLIS 7
MINNESOTA

If you write maker identify as IEN - 6002

MARMAN SUPPORTS

For Ducting, Fuel, Hydraulic or Air Lines and Wiring Assemblies

Marman Supports are light, strong, and corrosion-resistant. They provide secure mountings that allow for quick assembly or disassembly, yet hold tight under conditions of stress or vibration. Lugs, clips or brackets can be attached to Marman Clamps to make Supports which will hold hydraulic lines, wiring, etc.

Marman Supports often can be used in place of traditional screw or bolt mountings to save weight, cost and installation time. They are supplied with patented "Quick Coupler" or T-Bolt tension screws for maximum ease of assembly or disassembly.

WRITE DEPT. I-6 for complete information on Marman Supports

MARMAN PRODUCTS CO., INC.
940 WEST FLORENCE AVENUE
INGLEWOOD, CALIFORNIA

If you write maker identify as IEN - 6003

Ledeen VALVES

14 Models for Positive, Easy Actuation of Air or Hydraulic Cylinders

HAND OPERATED 4-WAY VALVE
A simple, economical valve, suitable for most requirements. Requires only light turning effort. Built for long life.

FOOT OPERATED 4-WAY VALVE
Leaves hands free for other work. Requires only light pedal pressure. Works like accelerator throttle. Particularly valuable for women workers.

POWER OPERATED 4-WAY VALVE
For remote control with or without electricity. Can be controlled by microswitch, cam, finger or toe operation.
Ledeen Valves embody the rotating disc construction, and are designed for controlling the flow of air, oil or water. They are made in 14 different models for 5 different cycles, in 6 sizes.

Ledeen Mfg. Co.
1602 San Pedro St.
Los Angeles 15, Cal.

Write for Bulletin 510

If you write maker identify as IEN-6004

SAVINGS AS HIGH AS 50%
MADE WITH THIS P-K SCREW
It's the "one operation" fastener

SIMPLE
Hammered or Pressed into Plain Holes
SPEEDY
No Tapping
No Mold-Complicating Inserts
STRONG
Tamper-Proof Permanent Fastening

P-K TYPE "U"
Hardened METALLIC DRIVE SCREW
For permanent fastenings in castings, heavy sheet metal, plastics. One of many types. For details, write Parker-Kalon, 200 Varick St., New York 14, N. Y.

Call in a P-K Assembly Engineer
See why industry's fastening-wise leaders say —
IF IT'S P-K® . . . IT'S O.K. — THE *ORIGINAL*
PARKER-KALON® SELF-TAPPING SCREWS
AVAILABLE EVERYWHERE THROUGH ACCREDITED DISTRIBUTORS

If you write maker identify as IEN-6005

HEADLINE NEWS
EXTRA . . .
DETROIT POWER SCREWDRIVER ANNOUNCES
IMMEDIATE DELIVERY

No Waiting—Start Now
to Benefit with These Outstanding
ASSEMBLY AIDS

Various Models to Suit Your Requirements

ADD Phenomenal Speed and Efficiency

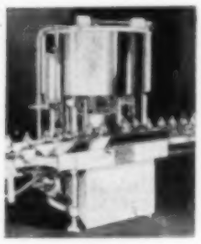
No need to continue slow, costly hand methods; use Detroit Power Screwdrivers and profit immeasurably by increased production and economy. Drive all types of screws with almost incredible speed, as fast as one to two seconds per screw. Detroit Power Screwdrivers play an important part in the present-day industrial capacity to produce rapidly . . . So, now that prompt deliveries are made possible, send sample assembly for production estimate at once and let our 26 years' experience as specialists in assembly problems serve your individual needs. Also receive our catalog describing in detail our complete line of POWER SCREWDRIVERS, HOPPER FEEDING UNITS, NUT DRIVERS and SPECIAL ASSEMBLING MACHINES.

DETROIT POWER SCREWDRIVER CO.
2815 W. FORT ST. DETROIT 16, MICHIGAN

If you write maker identify as IEN-6007

PACKAGING . . Vacuum machine to deliver liquids into containers

Source: U. S. BOTTLERS MACHINERY CO.
4017 N. Rockwell St., Chicago 18, Ill.



Recently improved

The company announces improved design in its Series-N automatic vacuum filling machine. The line is now available in six basic models and 14 adaptations with a range of container capacities to 128 ounces. In the large size the machine will fill 30 to 60 containers per min. based on handling a product of about the same consistency as water. The smallest machine employs 16 filling tubes. The largest one has 30. Maximum container size ranges from 3¾ to 5⅛ in. in diameter and from 4 to 12 in. in height.

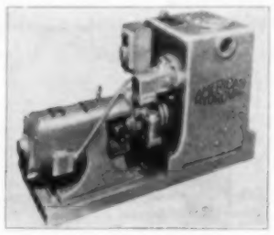
A new design of friction clutch, in which a split bronze yoke surrounds a cast-iron driving drum and applies pressure by means of four springs to the grease lubricated surface of the drum, provides a means for main drive connection that assures starting and stopping, quick release on slight overload and ability to absorb sudden shock. The new vacuum-overflow-return pump is made of stainless steel. Product level in the supply tank is controlled by a float valve built around the supply pipe in an arrangement that makes each filling tube its own supply line and eliminates the previously-employed common manifold.

A worm feed is employed on the incoming side to register the container with the star wheel. It positions the container or stops the machine before any damage can occur. The company has published a new 16-page bulletin, "Rotary Filler Bulletin," illustrating and detailing the current design.

If you write maker identify as IEN-6008

PUMP . . For condensate return, rates to 6 gpm. at 150 lb. pressure

Source: AMERICAN HYDROVAC
288-92 Scholes St., Brooklyn 6, N. Y.



Ask for Bulletin BF26

Double-suction bronze-fitted motor-driven turbine pump is assembled on a cast-iron base with a strainer-equipped cast-iron condensate-return receiver, a No. 21 McDonald & Miller make-up water feeder, a brass-fitted water gage and motor control in this new Type BF-C condensate-return boiler-feed equipment. The motor is designed for operation in the presence of moisture without danger of failure. The double-suction pump equalizes flow to both sides of the bronze impeller.

The pump is self-venting so it cannot air bind. The receiver ranges from 12 to 26 gal. capacity. Its inlet return connection is 2 to 2½ inches. Various sizes, in single and duplex arrangement, are available to serve boilers rating from 5 to 30 hp.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN-6009

Speeds Soldering on Small Joints

New, lightweight iron offers these features for production-line soldering in electronic and communication industries:

- Thin shank gets tip into places a regular iron can't reach
- Lighter weight iron lowers operator fatigue
- Ironclad tip needs little maintenance

FREE BULLETIN gives you complete information. Write for GED-1583 to Sect. 720-85, *General Electric Co., Schenectady 5, N. Y.*

GENERAL ELECTRIC

If you write maker identify as IEN-6010

YOU WON'T GO WRONG with a
Sta-Warm
electrically heated
COMPOUND MELTER

There's a size and type of compound melter, with accessories to suit, for almost every production and laboratory requirement. The Sta-Warm "standard" line of pots, kettles and tanks fits 90% of your production requirements. Sta-Warm "engineered" pots, kettles and tanks are offered to fill the unusual requirement. These heaters are designed especially for you.

Are you aware of all that Sta-Warm offers you in compound and soft metal melters today? Inquire, outlining your problem. A reply by early mail, with specific suggestions based on many years of compounds heating experience, will come back to you.

Why not investigate Sta-Warm today?

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST., RAVENNA, OHIO

If you write maker identify as IEN-6011

Free! New!
SIGNODE GUIDE TO BETTER PACKAGING and SHIPPING METHODS

Learn how to give your products better protection in transit, at lower costs. Send for this brand new revised edition of the *Signode Guide to Better Packaging and Shipping Methods*. It is filled with usable facts—sizes and weights of steel strapping, seals, tools, accessories; methods of applying strapping to containers, and to loads in open and closed cars; tested ways to barricade car doorways to protect all types of packaged and bulk commodities; and the use of automatic power strapping machines.

Send for your copy today!

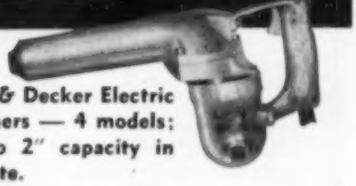
To get your free copy of the *Signode Guide To Better Packaging and Shipping Methods*, mail this magazine's reply form, or write . . . . .

SIGNODE STEEL STRAPPING COMPANY
2611 N. Western Avenue, Chicago 47, Illinois

THIS SEAL MEANS SSC SECURITY IN SHIPPING

If you write maker identify as IEN-6012

NEED A HAMMER?
Switch to BLACK & DECKER *Power!*



Black & Decker Electric Hammers — 4 models; ½" to 2" capacity in concrete.

BLACK & DECKER ELECTRIC HAMMERS pack plenty of punch for high-speed drilling and channeling in concrete, stone or brick; doing light demolition; removing rust and scale from metal; driving spikes; scuffing concrete surfaces. Deliver thousands of hammer blows per minute. Light weight, husky, completely self-contained, no transformers needed. See your nearby B&D Distributor. Write for free catalog to: THE BLACK & DECKER MFG. CO., 615 Pennsylvania Ave., Towson 4, Md.

LEADING DISTRIBUTORS EVERYWHERE SELL
Black & Decker
PORTABLE ELECTRIC TOOLS

If you write maker identify as IEN-6013

... its equipped with a

SYNTRON

ELECTRIC VIBRATOR

With Variable Control of Power

3600 controllable vibrations per minute keep even the most stubborn materials flowing freely thru bins, hoppers, chutes and screens ... of any size ... WITHOUT THE HAMMERING AND RODDING AND POKING THAT WASTES MANPOWER AND DAMAGES EQUIPMENT.

Write for FREE Illustrated Folder

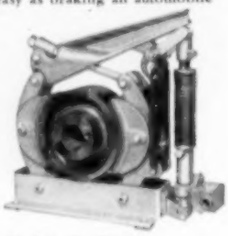
410 Lexington Ave.
Homer City, Pa.

SYNTRON CO.

If you write maker identify as IEN-6014

Be Sure your cranes are safe ... use Wagner Crane-Bridge Brake Systems

Wagner Hydraulic Brakes provide even the heaviest cranes with controlled deceleration and smooth, precise stops ... as accurate and easy as braking an automobile ... and just as safe.



If your cranes are not equipped with Wagner Brakes, we can show you how simple it is to install a modern hydraulic system. If you now have old-style Wagner Brakes, your system can be quickly modernized with our complete conversion kits. Bulletin IU-40 gives complete information—write for your copy.

Only Wagner Hydraulic Braking Systems give you all these features:

- New Combination Service and Parking Brake
- New Remote Control Bleeder
- New Self-Centering Device
- New Systems easy to install
- Old Systems easily modernized

Wagner Electric Corporation

6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

If you write maker identify as IEN-6015

CLAUSING

18" HEAVY DUTY DRILL PRESS

... FOR BETTER HEAVY DUTY DRILLING

Get these important new drilling advantages with a Clausing 18" Drill Press. The 6½" spindle travel gives bigger job capacity, permits better use of production chucks. Drilling capacity: ¾" in steel, 1" in cast iron. Spindle nose is No. 3 MT. There's 6" to 13" *more* capacity from spindle to table. Spindle is bigger, stronger—handles larger tools. Exclusive vernier control provides .001" depth accuracy. Positioning mechanism saves set-up time—moves *both* head and table. Massive construction, precision-machining throughout, and the smoothness of 5 ball bearing races insure exacting accuracy on every operation. Contact your Clausing distributor, or write for catalog.

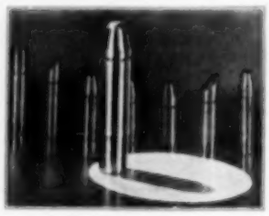
CLAUSING DIVISION

ATLAS PRESS CO., 691N. Pitcher St., Kalamazoo, Mich.

If you write maker identify as IEN-6016

WELDING .. Spot weld electrode has expendable cap on adapter shank

Source: FANSTEEL METALLURGICAL CO.
2204 Sheridan Road, North Chicago, Ill.



Ask for Bulletin 14.100

New shank size with No. 3 Morse taper has been added to the No. 1 and No. 2 sizes in the company's Kaptrode line of spot-welding electrodes, previously described IEN-10971-51. The three shank sizes apply with six nose styles including pointed, dome, flat, offset, truncated-cone and radius-face. Each is available in three RWMA alloys Classes 1, 2 and 3.

The shanks are made in six lengths ranging from 1¾ to 3 inches. Each electrode projects 1 in. from the shank. It can be removed when it has been worn by using an extractor tool the company supplies. Tests made under ordinary operating conditions indicate that one shank outlasts 10 electrodes.

If you write maker identify as IEN-6017

PAINTING .. Protective coating for surfaces subject to 1,000 deg. F.

Source: J. LANDAU CO.
221 Wooster St., Room 3, New York 12, N. Y.

List is $12.75 in single gallons

Lankote 705 is a new silicone aluminum paint for brush or spray application on smokestacks, furnace walls and other surfaces operating at temperatures to 1,000 deg. F. The paint protects against corrosion, deterioration and weathering. Packaging is in 1 and 5-gal. cans.

If you write maker identify as IEN-6018

CLAMP .. To adjust flow in a flexible tube, releases quickly

Source: FISHER SCIENTIFIC LABORATORIES
719 Forbes St., Pittsburgh 19, Pa.

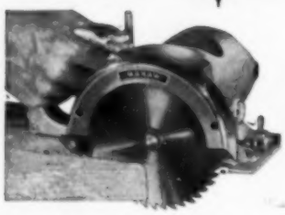
Particularly for laboratories

Two cylinders forming the body of this new Vari-Flow clamp also carry the two clamping jaws and are fitted, one inside the other, to enclose a compression spring. The spring tends to hold the clamping jaws together against the action of an adjusting screw. This screw can be positioned to limit the amount of pinch action on a flexible tube to ⅜ in. in diameter. An operator can press upon the heads of the opposed cylinders to compress the spring and quickly release the flow restriction. The clamp is made of non-corroding Castaloy with a nickel-plated brass adjusting screw.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER .. Descriptions .. Ratings .. See Page 50

If you write maker identify as IEN-6019

MAXAW 700 magic pivot does it!



$69.50

Heavy Duty—All Ball-and-Roller Bearing—Industrial Quality

Blades Last *Twice* as Long

MAXAW 700 with Cummins exclusive magic • pivot cuts so much deeper at the 45° bevel, gives you so much more blade to spare that blades keep their cutting depth twice as long. This means MAXAW hard-biting "stub-radius" blades take three to four more sharpenings, double their usefulness over other similar blade-size saws costing up to $50.00 more and cut your blade-replacement costs in half. magic • pivot does it!

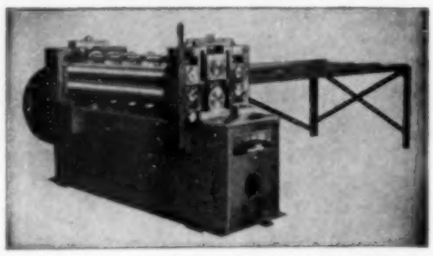
Free Pamphlet— Find out what magic • pivot can do for you. Send for Pamphlet 1-42.

Cummins-Chicago Corp.
DIVISIONS
Cummins INDUSTRIALS • Cummins Portable Tools
4740 N. Ravenswood Ave. • Chicago 40, Illinois
IN CANADA: 326 Lauder Ave., Toronto

If you write maker identify as IEN-6020

RAFTER GANG SLITTER

For Lasting Accuracy



With or without feed rolls for the slitting of varied widths and gauges of metal. Machined and accurately ground cutter shafts made of high-grade carbon steel. Machine cut gears. Generous size bearings. Vertical adjustment of upper spindles allows regrinding of double edge type cutters. By removing two bolts, the end housing is drawn from cutter shafts permitting quick change of cutters. Spacer collars machined and marked for particular job, easily and simply removed for change over of various slitting widths. All features represent accuracy, speed and economy.

RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street Belleville 9, N. J.
COLD ROLL FORMING MACHINES
& PRESS BRAKE FORMING DIES

If you write maker identify as IEN-6021

If you have any of these problems in your connections

✓ VIBRATION
✓ MISALIGNMENT
✓ FLEXATION
✓ EXPANSION and CONTRACTION

solve them with CMH FLEXIBLE METAL HOSE

Scores of troublesome connection problems where the above conditions exist are effectively solved with CMH Flexible Metal Hose. Manufactured in a variety of types and metals, CMH Flexible Metal Hose is available for pressures from vacuum to 12,000 psi (burst); temperatures from sub-zero to 1600° F. Write for literature, mentioning the types of connection problems you have.

CHICAGO METAL HOSE
DIV. FLEXONICS CORPORATION
1333 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

If you write maker identify as IEN-6022

This Haul Beats All of Madame's Jewels ...'cause

PROTO means PROfessional TOols!

You get true *professional* quality in PROTO tools, because they are designed and built to meet the exacting requirements of tool experts. Modern user-tested designs, PROTO-specified alloy steels, proper forging and heat treating, and extreme care in all manufacturing steps result in tools that are extra strong, accurate, easy to handle and long-lived. Make your PROTO dealer's store your *professional tool* headquarters. Send 10¢ for 68-page catalog to

The PROTO Line Includes Wrenches, Pliers, Screwdrivers, Punches, Chisels, Sockets & Handles and Many Others.

PLOMB TOOL COMPANY
2271P Santa Fe Ave., Los Angeles 54, Calif.

5281

Eastern Factory—Jamestown, N.Y.

PROTO TOOLS
LOS ANGELES

If you write maker identify as IEN - 6023

A PAID NEWS ADVERTISEMENT BY AMERICAN BRASS CO.

FLEXIBLE CONNECTORS

Complete line of American Flexible Metal Connectors simplifies design problems

Operating under extreme conditions of vibration, pressure and heat, American Flexible Metal Connectors often offer the only solution to a tricky design problem. They may be used to replace a complicated maze of joints and fittings. For everything from jet aircraft to pants-pressing machines—designers are constantly finding new uses for them. Because they're made of *metal* and are *flexible*, they are ideal for carrying air, dust, gases, oil, steam, water, etc. Design engineers can use them to connect moving lines, protect wiring or delicate tubing, and to plan assemblies in cramped quarters.

• • • Available in various alloys and hose patterns, in long lengths or ready-to-use assemblies, complete with fittings attached.

Write for booklet SS-50—complete information on American Flexible Connectors and their uses. The American Brass Co., American Metal Hose Branch, Waterbury 20, Conn. In Canada: The Canadian Fairbanks-Morse Company, Ltd.

wherever connectors must move *American* flexible metal hose and tubing

If you write maker identify as IEN - 6024

CHROMALOX

Electric **STRIP HEATERS**

For fast, dependable, on-the-spot heat

Quick, Easy Installation—Economical Operation

Chromalox Electric Strip Heaters are modern industry's rugged tool for putting heat wherever it is needed—as in dies, tanks, pipelines, ovens and countless other spots. Chromalox Units can be clamped to any flat or curved surface. They can be tailored to your needs, anywhere a little or a lot of dependable heat is wanted. Easily installed, often with existing power lines, they produce the exact amount of heat required. Lengths from 4" to 96", width from 1" to 2½". See how multi-purpose Chromalox Electric Strip Heaters fit into your plant operations.

Write for Fact Packed CATALOG 50

It's yours without obligation.

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.

See *Chromalox Electric Heaters Advertisement*, Page 5

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN - 6025

EFFICIENCIES UP TO 98%

PHILADELPHIA SPIRAL BEVEL-HELICAL SPEED REDUCERS

For vertical or horizontal right angle drives where high efficiency and smooth dependable operation are desired, Philadelphia Spiral Bevel-Helical Reducers are widely preferred. They are available in single, double and triple reduction types in standard ratios from 1 to 1 up to 238 to 1. First reduction is always through spiral bevel gear set while precision shaved helical gears are employed in second and third reductions of double and triple types.

For details write for Catalog SB-50.

PHILADELPHIA GEAR WORKS, Inc.

ERIE AVENUE AND G STREET • PHILADELPHIA 34, PA.

NEW YORK • PITTSBURGH • CHICAGO • HOUSTON • LYNCHBURG, VA.

If you write maker identify as IEN - 6026

EXTINGUISHING . . Trailer, tank, engine driven pump, hose and fog nozzle

Source: FOOD MACHINERY & CHEMICAL CO. P. O. Box 145-A, Dept. IEN, San Jose, Calif.

Can be moved by hand or tractor

Fire Fighter Model 20B-FTT employs one of the company's No. 64-F duplex pumps and a 6-hp. Wisconsin engine in this new portable equipment. The pump delivers about 5 gpm. at 600 lb. through a 150-ft. length of $\frac{3}{16}$-in. high-pressure hose to one of the company's Bean Fire Master No. 785P fog nozzles. Hand adjustment at this nozzle permits delivering a straight stream or a finely divided fog of water.

The pump and engine are mounted on the two-wheel trailer with a 150-gal. tank made of copper-bearing steel, coated and baffled. The tank is fitted with a water-level gage and a covered manhole for refilling and cleanup. Connection to the pump from the tank or from an outside source for water is through a 10-ft. length of ¾-in. suction hose equipped with a strainer. The pumping unit itself is mounted on an individual frame on the trailer so it can be lifted out for use.

If you write maker identify as IEN - 6027

TRUCK . . Electric lift and travel, steering tongue control, 1 to 3 ton

Source: REVOLVATOR CO. 8704-8 Tonnelle Ave., North Bergen, N. J.

Ask for Bulletin T1

New design in the power-drive assembly of the company's line of Go-Getter trucks permits tilting action. One of the two driving wheels rides 1⅝ in. above the other as the truck travels over an uneven floor or starts up a ramp at an angle. The new arrangement maintains even traction and a steady load as the operator walks beside the unit and controls the movement at the steering tongue.

The line includes the Model-VP pallet type unit shown in the illustration in 2 and 3-ton capacities, a platform model in the same two sizes, a high-lift platform design rating 2 ton and a high-lift straddle design rating 1¼ ton. Maximum lift in the latter unit is to 156 in. above the floor.

Controls include a "deadman" brake that sets if the operator removes his hand from control position for any reason. There is also a dynamic brake on the motor to hold a heavy load on a steep ramp and limit the down-hill speed to about 2 mph. The brake can be set with the tongue in any position.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6028

DELICATE *but* PERMANENT

Matthews "Airgrit" gently breathes a permanent mark on metal, plastic, glass or fibre parts . . . parts with a ground or polished surface which conventional marking tools would marr or distort . . . in a fraction of a second per mark. Write Matthews for complete information and literature on "Airgrit".

JAS. H. MATTHEWS & CO.

3948 FORBES ST. • PITTSBURGH 13, PA.

NEW YORK • BOSTON • PHILADELPHIA

CHICAGO • CLIFTON N. J.

If you write maker identify as IEN - 6029

Machine bundling small size packages for the Squibb Co.

Bundle your packages by machine—and SAVE!

A modern bundling machine enables you to replace hundreds of cardboard boxes or fibre containers with a single economical roll of kraft paper. The machine bundles a dozen or fewer cartons at speeds of up to 24 bundles a minute. Only one operator is needed. These neat, sturdy bundles weigh less—cost less to ship. And dealers like them since they're easy to store.

Machine automatically applies end seals. It's easily adjusted for different sizes. Can be equipped with a special assembling unit which groups packages in the desired arrangement.

Write to our nearest office for complete information.

• WRAPPING DIVISION •

PACKAGE MACHINERY COMPANY

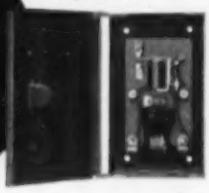
SPRINGFIELD, MASSACHUSETTS

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS DENVER LOS ANGELES SAN FRANCISCO SEATTLE VANCOUVER WASH. TORONTO MEXICO D. F.

If you write maker identify as IEN - 6030

• A LOAD-SENSING DEVICE for safety or protection purposes in control, power generation

NEW A-C WIDE RANGE CURRENT RELAY IS REACTOR TYPE, CHATTER-FREE



Bulletin 403 describes Ward Leonard's new reactor type relay for a-c circuits where currents are subject to wide variations. Current ratios up to 50 to 1 are standard, 200 to 1 on special order.

A saturable reactor is connected in parallel with a sensitive relay coil. The relay remains closed throughout specified current range—opens only when load current falls below minimum or when disconnected from reactor.

Silver-to-silver SPDT contacts assure positive make and break.

Write for relay Bulletin 403. WARD LEONARD ELECTRIC CO., 33 South Street, Mount Vernon, N. Y. Offices in principal cities of U.S. and Canada.

WARD LEONARD ELECTRIC CO.

Result-Engineered Controls Since 1892

RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

If you write maker identify as IEN - 6031

how to make valuable TITANIUM *Go Further:*

TENSILE STRENGTH S-WL PATTERN — DEPTH .015		
DATA	Plain Finish	Rigidized Metal
Yield	55200	70700
Ultimate	72200	83200
% Elongation in 2"	32	22

***Plus 108%* INCREASE IN FLEXURAL RIGIDITY**

***Rigidized* Metals**

As expensive metal to produce and use, titanium—as well as all other ferrous and non-ferrous metals—can be made to go further in product applications *without using additional metal*. RIGIDIZED Titanium has increased tensile strength, increased rigidity and greater buckling strength. The three-dimensional quality of this exclusively manufactured metal means possible gage reductions . . . and *less use* of critical materials, such as titanium. A wide selection of RIGIDIZED METAL pattern designs permit its use throughout every industry. Available in all ferrous and non-ferrous metals—solid or perforated—sheet or strip, for increased product value.

WRITE FOR FREE CHARTS on company letterhead: Rigidized Metal tests with titanium for added strength, reduced weight—also CONSERVATION FOLDER.

U.S. & Foreign Patents

Rigidized Metals Corporation

6646 OHIO STREET BUFFALO 3, N. Y.

Offices in Principal Cities in the U.S. and Canada

CABLE ADDRESS: "RIGIDIZED"

If you write maker identify as IEN - 6032

RAILS AND TRACK ACCESSORIES

Buy Rails and Track Accessories from a reliable single source—to save time and money. L. B. Foster's large warehousing operations provide dependable delivery of all your trackage needs—new installations or replacements. We'll meet your exact requirements. All material is rigidly inspected before shipment and is backed by Foster's Guarantee.

Write for Rails & Track Accessories Catalog IE6

STEEL SHEET PILING • PIPE • WIRE ROPE

L.B. FOSTER CO

PITTSBURGH 30, PA. NEW YORK 7, N.Y.
CHICAGO 4, ILL. HOUSTON 2, TEX.

If you write maker identify as IEN - 6033

LOWER THE BOOM ON COSTS
SET-RIVETS FAST
2 at a time with the
Chicago "214"

• With every press on the foot pedal the Model 214 Chicago Double Rivet Setter automatically feeds, inserts and clinches *two* rivets. 14-inch throat accommodates large assemblies. Handles 3/16" or smaller steel tubular rivets, 1/4" or less in length. Quick Change Rotary Type Hoppers and Raceways permit a 5-minute changeover to rivets of different size. Adjustable anvils and riveting centers add to its versatility. For help with your specific fastening problem...send a sample of your problem assembly (or a blue print) for free fastening analysis.

RIVETS

FREE CATALOG contains valuable engineering information and rivet specifications plus illustrated descriptions of 26 Chicago Automatic Rivet Setters.

Chicago Rivet & MACHINE CO.
9602 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois
Branch Factory: Tyrone, Pa.

If you write maker identify as IEN - 6034

Send Coupon Today for Your FREE Copy

"WHY IT PAYS TO ANCHOR YOUR MACHINES WITH UNISORB®"

Here's the book that tells you how to

- Avoid destructive floor-drilling with UNISORB machine anchoring...the modern way that needs no bolts, no lag screws.
- Eliminate 60%-85% transmitted machine noise and vibration.
- Achieve a safe, dependable machine mounting that lasts for years and years *with no maintenance.*
- Save time, expense and confusion when installing new machinery or repositioning present machinery.

The FELTERS Co.
210-J SOUTH ST.
BOSTON 11, MASS.

Gentlemen:
Please send my free copy of "Why It Pays to Anchor Your Machines with UNISORB."

NAME .....
COMPANY ..... TITLE .....
STREET .....
CITY & STATE .....

If you write maker identify as IEN - 6035

TESTING . . Electronic instrument, simplified design, to measure noise

Source: GENERAL RADIO CO.
273-77 Massachusetts Ave., Cambridge 39, Mass.

List with case is $135

Type 1555-A designates a new sound-survey meter of simplified design as compared to the company's Type 1551-A instrument. The new unit is shaped to fit the hand. It also can be set upon a table or mounted on a tripod in an area in which noise-level measurements are to be made. Controls are assembled on the face of the housing. They include a function switch at the left and a continuous level control at the right. Sound level is read on a meter. Total weight with batteries is a little under 2 pounds.

The instrument consists of a microphone, a calibrated potentiometer, a four-stage amplifier with weighting networks and an indicating meter. Power is supplied by one Size-C flashlight cell and one 30-volt hearing-aid B battery. The calibrated potentiometer is a continuous level control that can be adjusted so the fluctuating reading on the meter balances about the zero decibel mark when measuring noise. Then the level is given directly by the dial to the right on the housing face. This dial covers the range of 50 to 100 decibels which is most often used.

An additional 30-decibel attenuation is also provided by setting the function dial and this, with the minus 10 to plus 6 decibel range of the meter, makes the total sound-level range of the instrument between 40 and 136 decibels.

The level control can be set, in measuring noises with a fairly steady background level and occasional bursts to higher level, so the background level is at minus 10 decibels on the meter. Bursts of noise then can be read up to 16 decibels higher directly on the meter. Noise surveys, appliance-noise tests, frequency-response tests, deafness-risk surveys can all be made with the new meter.

If you write maker identify as IEN - 6036

SWITCH . . Special rotary unit, printed electric circuit construction

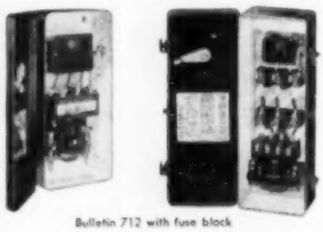
Source: DAVEN CO.
189-93 Central Ave., Newark 4, N. J.

Typical unit

The company announces development of a technique in application of printed circuits to construct special rotary switches particularly for telemetering and electronic applications. It offers to design and manufacture the switch to specification with any required number of contacts spaced around a contact panel at regular or irregular intervals, depending on the timing required. Shorting or non-shorting switch action can be called for. Almost any type of metal can be applied to a variety of phenolic-base panel materials.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6037



Bulletin 712 with unfused disconnect switch

Bulletin 712 with fuse block

QUALITY Combination Starters that Reduce Your Installation Costs

In applications where the Electrical Code specifies that a manual disconnect unit must be used . . . ahead of your automatic starters . . . don't use TWO separate units. Install an Allen-Bradley Bulletin 712 Combination Starter. It combines both units in one handy cabinet and makes a neater, compact, up-to-date installation. Available in many types of special purpose enclosures.

Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wis.

ALLEN-BRADLEY QUALITY
MOTOR CONTROL

If you write maker identify as IEN - 6038

HOW TO CONTROL GAGES AND GAGE INSPECTION

New illustrated booklet describes and shows suggested McCaskey procedures and forms designed to provide:

- Reinspection date follow-up;
- Location and condition of each gage and measuring instrument, loaned or in crib;
- Gage and Instrument History record;
- Central clearance record of each employee's gages and instruments;
- Tool and gage inspection report;
- Gage tag, conditional release tag for tools (fixtures), and faulty tool and gage tag;
- Instrument and gage withdrawal order, etc., etc.;
- . . . all designed for complete control with speed, accuracy and minimum clerical work.

Close control of your gages, instruments and fixtures and their inspection will reduce spoiled work and rework costs . . . and improve your product quality.

Write today for your copy of McCaskey Tool and Gage Inspection Control—Bulletin A-512 IEN—showing how it can be done.

THE McCASKEY REGISTER COMPANY • ALLIANCE, OHIO

McCASKEY INDUSTRIAL CONTROLS
PRODUCTION • TOOLS • INVENTORY • COSTS • MAINTENANCE

If you write maker identify as IEN - 6039

Just 1/32" (pinhole size) faucet leak

MUSHROOMS into ATOMIC WASTE

of approximately 95,000 gallons of water yearly—costing:

$24.14

@ $1.90 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 95,000 gals. costs approximately:
$68.31 if coal (9879 lbs.)
$91.08 if oil (793 gals.)
$64.41 if gas (94,411 cu. ft.)

Above figures authenticated by Hackensack Water Co. and American Gas Association.

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with "SEXAUER" "Easy-Tites" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.

"EASY-TITE" Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300°F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.

THE NEW "SEXAUER" CATALOG,
Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. *Send for your copy today!*

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age *and without obligation.*

A postcard will bring him and your new Catalog promptly.

J. A. SEXAUER MFG. CO., INC., Dept. K-62
2503-05 Third Avenue, New York 51.

as advertised in THE SATURDAY EVENING POST

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

If you write maker identify as IEN - 6041

White... Moisture-Resistant!

This new, white Bruning pencil tracing cloth lets you draw better and faster than ever before, gives you an improved drawing surface with unsurpassed *permanent* translucency for top-notch reproductions.

Here are the six reasons Brutex does a better job: 1. The super-velvet matte surface is exactly *right* for pencils of even the harder grades. 2. Translucency is clear and uniform. 3. Repeated erasures do not affect the surface. 4. It's moisture-resistant. 5. Brutex won't discolor or become brittle. 6. All qualities are *permanent!*

Get free booklet from Charles Bruning Co., Inc., Department B62, Teterboro, N. J.

BRUNING
Everything for the Engineer and Draftsman

If you write maker identify as IEN - 6042

AN INVESTMENT IN BETTER FIRE PROTECTION

By investing in a Horton elevated tank to provide water for an automatic sprinkler system—you get the advantages of better plant fire protection 24 hours a day—7 days a week. Dependable gravity pressure sees that water flows instantly—as soon as a sprinkler head opens.

Write our nearest office for quotations on Horton elevated water tanks. Please state capacity, height to bottom, location and type of insurance carried. There is no obligation on your part.

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • San Francisco
Seattle • Tulsa • Washington, D. C.
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

If you write maker identify as IEN - 6043

If you write maker identify as IEN - 6044

CONTROL . . Pressure transducer for proportional electric signal

Source: SERVOMECHANISMS INC.
Stewart & Post Aves., Westbury, N. Y.

Particularly for aircraft

Type TR101 and TR102 are new pressure transducers to convert absolute and differential pressures into electric signals for use with analog computers, electronic instruments. The absolute-pressure unit operates on one source for air pressure. The other establishes a differential derived from two separate air sources. Applied pressure range in the first case is maximum at 760 mm. Hg. In the second case it is maximum at 684 mm. Hg. Output voltage is maximum at 2.94 and 3.05 volts with 26 and 30 volts of excitation respectively. Overall dimensions are 2½ by 2½ by 7¼ inches. Weight is a little over 2 pounds.

The output of each transducer has an attenuated 400-cycle voltage that is proportional to the pressure and to the applied 400-cycle voltage. Attenuation is accomplished by the combination of a bourdon tube and variable-reluctance magnetic bridge. No mechanical friction is involved. The interior of the housing is kept free from water condensation and possible icing by thermostatically controlled heaters. Mounting can be in any position.

If you write maker identify as IEN - 6045

COUNTING . . Electric actuators and remote counters to check piece work

Source: MAGNUSON ENGINEERS
507-11 Emory St., San Jose 10, Calif.

$70 per station

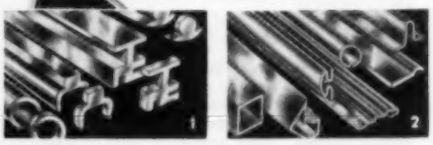
Hytab trade names a new assembly of electrically-operated counters and time-delay actuators, initially developed for food-processing plants to count piece work at processing and grading operations by passing the work through housings surrounding actuators. The counting action involves an adjustable time delay that prevents intentional tampering. Counts can be made to 200 units or operations per minute. Each counter on the remote panel connects to one actuator located at an operator's position. From 10 to 60 counters can be assembled on a panel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6046

Which of these do you use?

(1) ALUMINUM EXTRUSIONS
(2) ROLL-FORMED SHAPES



It's so easy to make WERNER facilities a dependable part of your own production lines.

Simply tell us whether your interest is in ALUMINUM EXTRUSIONS or in ROLL-FORMED shapes of *aluminum, stainless steel, brass, zinc, copper.* You will receive immediately specific, well-illustrated information covering your inquiry—and detailing WERNER capacity for *secondary operations.*

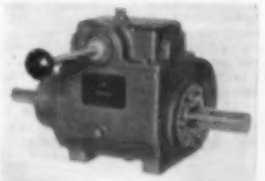
Two strategically located WERNER high-capacity plants are now serving nationally known top companies.*

From WERNER—you'll get highly personalized attention and *service.* Write Dept. IEN for bulletins.

*Names on request.

Manufacturers - Basic Aluminum Extrusions and Roll Formed Products
R. D. WERNER CO. INC. ALUMINUM
390 FIFTH AVENUE, NEW YORK 16, N.Y. • FACTORIES: GREENVILLE, PA. • OSHAWA, ONT., CANADA

If you write maker identify as IEN - 6047



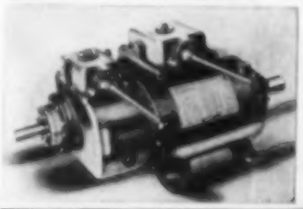


plate or platform mounting

9000-B (1-5 H.P.) 5 H.P. capacity with input speed of 900 r.p.m. **Gear ratios:** 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.

8100-B (5-10 H.P.) 10 H.P. capacity with input speed of 900 r.p.m. **Gear ratios:** 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.

9300 (30 H.P. capacity with input speed of 900 r.p.m.) 8 speed Changes in Geometric Progression of 1.29 (Total reduction of 6:1).

Send for catalog and complete information

up to 50 h. p.
WESTERN TRANSMISSIONS
WESTERN MANUFACTURING CO. • 1555 ADAMS • DETROIT • MICHIGAN

If you write maker identify as IEN - 6048

There's a Yale hoist for *every* lifting job!

To take operating costs off the firing line . . . bring your lifting problems to your YALE Distributor. For a YALE Hand or Electric Hoist can save manpower and increase production on every lifting job.

Your YALE Distributor can give you valuable help in choosing the right hoist for your special needs—from the world's most complete line of hoisting equipment. He will recommend the modern, dependable YALE Hoist designed to solve your particular problems. Look for your local YALE Distributor in the Classified Directory. Or mail the coupon below.

ELIMINATE HOIST DOWNTIME with the YALE Cable King Electric Hoist. Exclusive Cable King Positive Load Brake Lubrication minimizes heat created by friction. And the exclusive Cable King Cooling System circulates air into all parts of the Braking Mechanism. Result: A Hoist that gives you continuous day-long, top-speed service.

CAPACITIES: ¼ to 12 Tons

YALE & TOWNE

MAIL THIS COUPON TODAY
The Yale & Towne Mfg. Co., Dept. 366
Roosevelt Boulevard & Haldeman Ave.,
Philadelphia 15, Pa.

I'm interested in lifting for less with a YALE Hoist.
☐ Please have your local Distributor call on me
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☐ YALE Hand Hoists
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In Canada write: The Yale & Towne Manufacturing Co., St. Catharines, Ont.

YALE is a Registered Trade Mark of The Yale & Towne Manufacturing Co.

YALE HAND AND ELECTRIC HOISTS • YALE GAS AND ELECTRIC INDUSTRIAL TRUCKS
YALE WORKSAVERS • YALE HAND TRUCKS • YALE PIVLIFTS

If you write maker identify as IEN - 6050

Rolling Steel Doors

Manually • Mechanically • Power Operated

No other type of door offers as many desirable features as a good Rolling Steel Door . . . open or closed, they occupy no usable space inside or outside the opening. All-metal construction assures permanence and a lifetime of continuous trouble-free service. Push-button controlled vertical roll-up action provides the quick, timesaving door operation demanded today by all industrial and commercial concerns. When you buy Mahon Rolling Steel Doors you get the latest developments in doors of this type — comparison will convince you. See Sweet's File for complete information, or write for Catalog No. G-52.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

If you write maker identify as IEN - 6051

Need Conveyor Chain? NOW

We're In Position To Make
IMMEDIATE DELIVERY
X458 Drop-Forged Rivetless
Conveyor Chain

Improved production and material conditions have enabled Jervis B. Webb Company to stock an adequate supply of X458 Chain — ready for immediate delivery — to meet your conveyor needs.

The No. X458 Drop-Forged Rivetless Chain for Trolley Conveyors (illustrated above) has the improved webbed side link which substantially stiffens it. Also, this type link prevents telescoping of the chain while in service. Simple and strong, it is cheaper and lighter per unit of ultimate strength than any other type of conveyor chain. It can be installed or removed by unskilled labor. Having no rivets, welds or bolts, X458 Chain requires no special or joining links and may be disconnected at any point, yet it is so designed that it cannot become disconnected while in service. No. X458 Chain is completely interchangeable with the Webb FIRST—the original No. 458 Chain designed in the early Twenties by Mr. Jervis B. Webb.

CONVEYOR ENGINEERS AND MANUFACTURERS
JERVIS B. WEBB COMPANY
3133 ASPINE AVE. DETROIT 6, MICH. — OFFICES IN PRINCIPAL CITIES
FACTORIES IN DETROIT . . . LOS ANGELES . . . HAMILTON, ONT.

If you write maker identify as IEN - 6052

DON'T LOSE VALUABLE DUST!

Buell's wide experience in the recovery of Valuable Dust can help you boost your plant's efficiency now—when peak efficiency is really needed!

To learn how a Valuable Dust Recovery System can be designed to suit your plant's special requirements, write today for full information on the *3 basic systems* of efficient dust recovery and dust collection. Ask for the new, illustrated Buell 'Dust Recovery' bulletin. Buell Engineering Co., Dept. 22-F, 70 Pine Street, New York 5, New York.

buell

Engineered Efficiency in Dust Collection

If you write maker identify as IEN - 6053

GRINDING . . Abrasive belt machine to finish grind jet blade airfoils

Source: PRATT & WHITNEY
49 Charter Oak Blvd., West Hartford 1, Conn.

Operator is watching work

The operator of this new machine loads a forged or fabricated jet-engine blade blank in a chuck facing to the left from the central head. It rides in front of a contact wheel carrying a motor-driven abrasive belt. A second chuck extending in the opposite direction and on the same spindle carries a master blade contacting a fixed master follower roll.

The head in which the two chucks are mounted forms part of a hinged frame that rides a horizontal slide on the main machine housing and carries a cam shaft in horizontal position above the location of the work and master. This shaft mounts a roll-type cam contactor and controls to govern the speed of a hydraulic motor driving both the work shaft and the cam shaft. A second cam operates a follower and connecting linkage that leads beneath the machine bed to the swivel-mounted motor that drives the grinding belt.

The cam that controls operation of the hydraulic motor varies its speed during each complete rotation of the work so the leading and trailing edges of the blade will pass the grinding contact faster than the concave and convex surfaces. The cam controlling the motor swivel keeps the grinding contact presented continuously normal to the twisted foil. This same motor, driving the work and master, causes the two to rotate together to follow the master and keep the work in correct contact for the grinding operation while the carriage traverses across the machine.

A roughing pass removes from 0.002 to 0.006 in. on a side per traverse. A finishing pass removes 0.001 in. per side. A rough milled blade blank with a maximum envelope of 0.01 in. can be finished in four traverses.

If you write maker identify as IEN - 6054

PROTECTING . . Hand cream for plant workers contains antiseptic

Source: WEST DISINFECTING CO.
42-18 West St., Long Island City 1, N. Y.

An antiseptic has been added

Three new creams, packaged in 12-oz. tubes or in a collapsible polyethylene bag for use in a dispenser, have been developed by the company to protect industrial workers. No. 211 is an oil-resistant water-soluble vanishing cream for use against dust-borne irritants, viscous oils, dirts, greases and grimes. No. 311 is a water-resistant soft cold cream for use in contact with dilute acids and alkalis.

No. 411 is a solvent-resistant water-soluble vanishing cream to protect against organic solvents, acetates and coolant oils with low water content. Each contains a patented ingredient that provides antiseptic protective action against irritation from free acids or alkalis.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6055

DEEP DRAWN

TO GIVE YOUR PRODUCT GREATER STRENGTH

A typical Hackney Deep Drawn Shell is this Seamless Shell for a dry chemical fire extinguisher unit. 7½" in dia., 21" high.

Hackney Deep Drawn Shapes and Parts are strong and smooth because they are shaped under pressure from one piece of sheet metal. Not only that, Hackney Deep Drawn Shapes and Shells can be produced faster at lower cost, with less weight and better appearance. Hackney Engineers have almost 50 years of specialized experience in working many metals and alloys into a wide variety of shapes and capacities. They will be glad to assist you in adapting special shapes that will improve existing products or develop new products.

Write for 50th Anniversary booklet.

Hackney PRESSED STEEL TANK COMPANY
Manufacturer of Hackney Products
1449 S. 66th St., Milwaukee 14 • 1122 Vanderbilt Concourse Bldg., New York 17
253 Hanna Bldg., Cleveland 15 • 936 W. Peachtree St., N. W., Rm. 135, Atlanta 3
208 S. La Salle St., Rm. 786, Chicago 4 • 577 Roosevelt Bldg., Los Angeles 17
CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

If you write maker identify as IEN - 6056

CESCO *RIGHT... before your Eyes!*

Comfortable, Convenient . . . SAFE. CESCO Coverlite Goggles fit *right* over most regular glasses and rest gently on nose, brow and cheeks. Lightweight one-piece frames are clear transparent (#562) or green plastic (#556) and are fitted with clear Super Safety replaceable glass lenses. *Right* . . . for protection against impact. *Right* . . . for workers in your shop. CESCO Coverlite Goggles are *"RIGHT . . . before your eyes."* **Send TODAY** *for CESCO literature and name of your CESCO safety equipment distributor.*

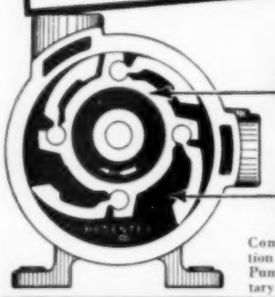
CHICAGO EYE SHIELD COMPANY • 2336 Warren Blvd. • Chicago 12, Ill.

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, D. F., Milwaukee, Montreal, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

If you write maker identify as IEN - 6057

LEIMAN AIR PUMPS GIVE YOU *Greater Capacity!*



SMALLER PISTONS *provide* LARGER AIR SPACE

Compare this cross-section of a Leiman Air Pump with any other rotary air pump. It is the working air space that counts—and Leiman provides 2 to 3 times more area, per size and weight of pump.

HINGED WINGS *take up their own wear*

Handle air pressure, vacuum or suction jobs with much smaller Leiman Rotary Air Pumps. You save weight and space—run at lower r.p.m.—have fewer moving parts—no springs, gaskets or packing—no tips to renew—nothing to give trouble. Leiman patented leak-proof hinged wings maintain fully-rated pressure or vacuum for years and years.

What is your air application?

Send us details. Leiman engineers offer over 60 years' experience with thousands of air applications.

Catalog and Application Data sent on request

For Pumps—write DEPT. A

LEIMAN *Rotary* AIR PUMPS (Pressure—Vacuum)

Metal Cleaning and Finishing without acids or scratch brushes

Fast, low-cost, safe, uniform!

LEIMAN SANDBLASTS

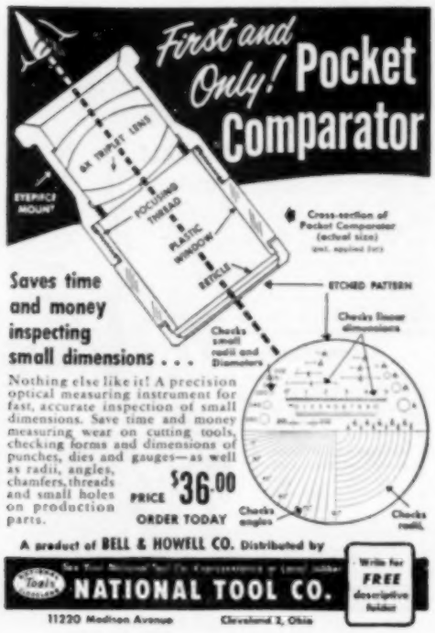
Clean up scaly, rusty, rough surfaces—prepare better surface for plating, enameling or painting—stencil letters and designs—more rapid matte or satin finishes. Use unskilled help. Many models, treadle or automatic.

For Sandblasts—write DEPT. B

LEIMAN BROS., Inc. 166 Christie Street Newark 5, N. J.

AIR PUMPS · AIR MOTORS · SAND BLASTS · DUST COLLECTORS

If you write maker identify as IEN - 6059



Saves time and money inspecting small dimensions . . .

Nothing else like it! A precision optical measuring instrument for fast, accurate inspection of small dimensions. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as radii, angles, chamfers, threads and small holes on production parts.

PRICE $36.00
ORDER TODAY

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NATIONAL TOOL CO.
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Write for FREE descriptive folder

If you write maker identify as IEN - 6060

Timely Facts and Features You'll Find in the NEOPRENE NOTEBOOK

- how you can reduce maintenance costs
- ways to solve many production problems
- new ideas on neoprene's wide range of uses
- technical help in specific applications
- details of new improvements in old products
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YOU'LL FIND PROFITABLE READING in every issue of the Neoprene Notebook. Each issue is packed from cover to cover with new ideas to save you time, trouble, and money. Put your name on our mailing list. Subscriptions are FREE.

Clip this coupon and mail it today.

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Rubber Chemicals Division, D-6
Wilmington 98, Delaware
Please send me free issues of the Neoprene Notebook.

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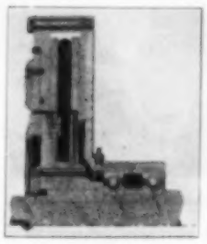
Firm_____
Address_____

NEOPRENE
The rubber made by Du Pont since 1932
DU PONT

If you write maker identify as IEN - 6062

DRIVE . . Pneumatic clutch engages by air pressure in flat tube

Source: CARDWELL MFC CO.
803 S. Wichita St., Wichita 11, Kansas



Half section is shown

Flex-Disc trade names a new friction-type pneumatic clutch in which a flat pneumatic tube assembles between two friction plates in the moving member with an air connection between the tube and the center of the rotating shaft. When air pressure is admitted through this connection the walls of the tube move outward to press the friction discs against the driven portion of the clutch which rides on the shaft on ball bearings. This movement sets up rotating friction to engage the clutch. When air pressure is released the tube collapses and the driving effort is released.

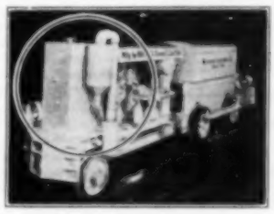
Five sizes, based on clutch-plate diameter, range from 12 to 33¾ inches. Each size is available with 1, 2, 3 or 4 tubes alternating with friction plates. Torque at point of slip with 80-lb. air pressure is 9,000 to 270,000 in. lb. with one tube. It is 36,000 to 1,080,000 in. lb. with four tubes. Recommended maximum speed is 2,000 rpm. with a 12-in. clutch, 1,000 rpm. for the 33¾-in. assembly.

Manufacture is to specification for each given application. The line includes air operated brakes, either spring engaged and air released or air engaged and spring released.

If you write maker identify as IEN - 6063

PROTECTING . . Exhaust conditioner neutralizes toxic diesel exhaust gas

Source: RUTH CO.
1436 Blake St., Denver 2, Colo.



A typical installation

New conditioner is designed to assemble with a diesel engine that is to be employed in confined locations where its exhaust may constitute a health hazard. The conditioner removes a substantial amount of carbon monoxide, oxides of nitrogen, aldehydes and lubricating oil vapor. It is not intended as a substitute for good ventilation in an operating area. The equipment is assembled in a rectangular housing made of stainless steel. It costs about $22 per h.p. on units of 20 hp. or less and $15 per hp. on larger sizes.

A small amount of the engine exhaust pressure is employed to circulate and agitate water in the conditioner. This agitation and diffusion of the exhaust gas in the water takes the acid from the exhaust gases in solution. The acid water is then sprayed over an alkaline chemical introduced in the form of briquets. This chemical converts the acid to a soluble salt. The water containing the impurities is drained and replenished after 8 hours of operation. Additional chemical is introduced at 50-hr. intervals.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN - 6064

More Production for Your Glove Dollars

R-15 Extra Duty, red neoprene coated fabric, curved fingers, non-slip grip, profiled palm and inserted thumb design. Knit wrist.

PIONEER Stanzoils®

It pays you to buy gloves that permit fast and easy work, with protection. No one or two gloves fit all jobs. There's more production in the right glove for each job. PIONEER's new Stanzoil catalog shows you how to buy. *Unbiased advice—Stanzoils include all kinds of liquidtight gloves:* all-neoprene, neoprene and vinyl-coated. 32 styles, weights, sizes, colors. Get dexterity plus utmost protection. Increase production, avoid work stoppage, satisfy workers—write for your Stanzoil catalog today!

Industrial Products Division

The PIONEER Rubber Company
635 Tiffin Road • Willard, Ohio

STANZOIL

OVER 30 Years OF QUALITY GLOVE MAKING

If you write maker identify as IEN - 6065

New!.. Simplified!.. Smaller!

ELECTRONIC NON-SYNCHRONOUS WELDER CONTROL

• for WALL or MACHINE MOUNTING •

Write for BULLETIN 8992

Address Square D Company
4041 North Richards Street
Milwaukee 12, Wisconsin

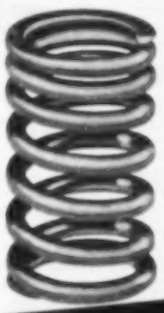
SQUARE D COMPANY

If you write maker identify as IEN - 6066

SPRING WIRE

Absolutely uniform in gauge, finish and mechanical properties

ROEBLING is about the largest specialty wire manufacturer in America . . . and Roebling uniform quality always helps cut preparation time and boost production for users.



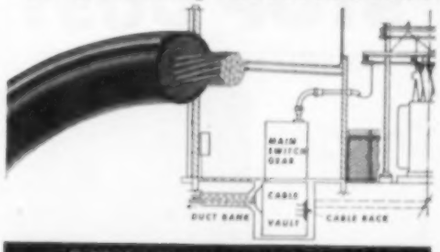
Typical of Roebling specialty products are mechanical spring wires including hard drawn, soft, annealed or oil-tempered M.B., H.B. and Extra H.B.; music wire; upholsterers' spring wire and valve spring wire . . . all in a full range of mechanical properties and finishes.

We can give you fast deliveries to meet your needs, right now! John A. Roebling's Sons Company, Trenton 2, N. J.

ROEBLING

If you write maker identify as IEN - 6067

for primary distribution



...OKOLITE-OKOPRENE

Keep your electrical circuits *strong*, free from weak spots which may disrupt production. For primary distribution cables, and *throughout* your plant circuits, specify Okolite-Okoprene wires and cables. Here's why:

Okolite Insulation stands up under heavy power loads, continuous use year after year.

Okoprene Sheath protects against abrasion, moisture, heat, oils and acids.

Insulation and sheath are applied by Okonite's strip process and vulcanized in a metal mold, giving greater stability and longer life to both. Write today for Bulletin IE -1053 to The Okonite Company, Passaic, N. J.

The best cable is your best policy

OKONITE *insulated wires and cables*

If you write maker identify as IEN-6068

SYNTRON

SELENIUM RECTIFIERS

Made by a new process to a uniform, high quality for continuous, heavy-duty service.

One inch square to 12- by 16-inch cells in standard stacks or for customer assembly.

Write For FREE Catalog Folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

If you write maker identify as IEN-6069

THIS MAY BE THE ANSWER TO YOUR FINISHING PROBLEM!

We say this because the Vonnegut Brush-Backed Polishing Head is designed especially for polishing curved and formed surfaces . . . and because it is an excellent deburring tool. It is used directly on die casting metals, aluminum, brass, bronze and steel — but it is equally efficient for removing bubbles and other blemishes and feathering out such areas on enamelled or painted surfaces. Its basic versatility is enhanced by a wide choice in grade and grit of abrasive loadings. It's a unique device available in two models, for portable tools or fixed spindle operation. Write for the Vonnegut Polishing Head bulletins.

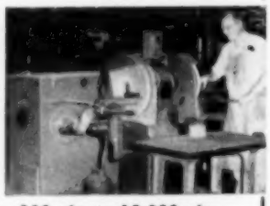
VONNEGUT MOULDER CORPORATION
1027 MADISON AVENUE • INDIANAPOLIS 25, IND.

If you write maker identify as IEN-6070

STOP DUST

INSTANTLY with DUSTKOP

DUSTKOP 1400 cfm.



DUSTKOP 3600 cfm.

300 cfm to 10,000 cfm per unit (22 models)

Standard, pre-tested, available from stock. Ask for catalog 605-2. Describe dust problem for recommendation by return mail. No obligation.

AGET-DETROIT CO.
401 Main Street
ANN ARBOR, MICH.

If you write maker identify as IEN-6071

PRESS TOOLS . . Die holder for application in company's Fabricator

Source: WALES-STRIPPIT CORP.
361 Payne Ave., North Tonawanda, N. Y.

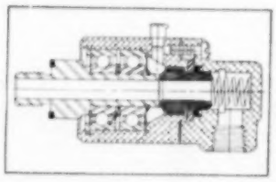
To punch holes to a layout

No. 3½ Holder designates new patented attachment for use in the company's Fabricator punching, notching and nibbling machine, previously described IEN-4232-50. The holder takes interchangeable punches and matching dies for holes to 3½ in. in diameter or shapes within that size circle. Thickness capacity is to ¼ in. in mild steel. The holder is particularly designed for quick punch and die change in order to perforate various shapes in a given work piece to a blueprint or operation sheet. The new holder fits into the bed channel. It is aluminum. Its base portion hinges open for die interchange.

If you write maker identify as IEN-6072

PIPE FITTING . . Rotary joint for stationary to rotating connection

Source: DEUBLIN CO.
1153-57 Waukegan Road, Dept. 11, Glenview, Ill.



The seal is replaceable

Rotating member in this new Model-1105 rotary fitting is made of tool steel. Its lapped end face bears against a carbon unit, also lapped, to provide the seal connection. The carbon is spring backed and sealed in the aluminum housing. The spindle is mounted on two factory-lubricated and sealed ball bearings for friction-free operation. The inlet is threaded for ¼-in. pipe. The outlet can be specified with ¼ to ⅝-in. internal or external threads.

A similar assembly, known as Model 2200, employs a carbon sealing ring seated in the spindle to bear against the face of a steel bushing riding against backing spring in the aluminum housing. This assembly is threaded for a ½-in. pipe thread at the inlet and for a 1-in. right-hand thread on spindle.

Identify as IEN-6073

Plastic cards carrying information on lubricants to employ at specified places and frequencies in a given machine have been added by Timken Roller Bearing Company to its preventive maintenance program. A card is made for each machine and is attached to it. Types of lubricants to use and procedure are covered in a separate lubrication manual that has been prepared by the maintenance department.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6074

Drill More Holes Per Hour In ANY Pattern . . . On ANY Drill Press

with a Adjustable MULTI-DRILL

DRILLS 2 to 8 HOLES at ONE STROKE

Increase production up to 800%. . . . save time, cut costs. MULTI-DRILLS make any drill press produce more. Attached without alterations or special tools. Quick, easy setups of universally adjustable spindles give you more flexibility . . . wider application. Handles any hole pattern within 9" circle, centers close as ½". Extension Spindles available to increase working area to 22½". Special adaptations available.

model 900

DRILLS ANY HOLE PATTERN

See your Commander Distributor for complete details. Write for the NEW Commander Full Line Catalog #831.

COMMANDER MFG. CO.
4219 W. Kinzie St. • Chicago 24, Illinois
Product of Commander . . . Builder of Production Tools

If you write maker identify as IEN-6075

NO SPRINGS TO BREAK in the Nutting JACK IT'S ALWAYS DEPENDABLE

The Nutting Jack is the ONLY jack operated entirely by gravity and leverage. With no springs to break, there is no danger of your whole jack-skid system suddenly being put out of service.

One lift truck and two dead skids cost about the same as two Nutting Jacks and twelve semi-live skids. That's one reason why the Nutting Jack and Skid system can be such a money-saver in your plant. Material stored on semi-live skids is made mobile in a hurry. The jack may be coupled to one skid, then uncoupled and coupled to another faster than the time it takes to tell about it.

Send for Bulletin 48-JS

Look in your classified phone directory for your Nutting representative, or write for Bulletin 48-JS. It will pay you to get all the facts on this superior Nutting Jack-Skid handling system.

Nutting makes everything in floor trucks, wheels, casters.

NUTTING TRUCK AND CASTER COMPANY
2013 Division Street Faribault, Minnesota

If you write maker identify as IEN-6076

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door models for various purposes.

SOLD AT A LOW COST

. . . and the cost is especially low because it pays for itself many times . . . saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

Be sure to write for illustrated literature and prices

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

If you write maker identify as IEN-6078

THIS IS ONE OF THE TRULY ALL-PURPOSE CHEMICAL HANDLING PUMPS AVAILABLE TO INDUSTRY TODAY

PEERLESS TYPE DS CHEMICAL PROCESS PUMP

PEERLESS PUMPS

SOME TYPE DS CHARACTERISTICS:
OPEN OR ENCLOSED IMPELLER DESIGN • COMPLETE RANGE OF SIZES 1"-6" • HEADS—UP TO 231 FEET • LIQUID END CAN BE OF ANY ALLOY

Oil-or-grease-lubrication
Rugged frame, case and liquid end

Write today for new Peerless Pump Bulletin No. B-1600. Completely describes the Type DS chemical process pump. Profusely illustrated with pump views, cutaway sections, elevations and dimensional data and performance characteristics.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta, Dallas, Plainview and Lubbock, Texas; Fresno, Los Angeles, Phoenix, Albuquerque, N. M., Tulsa

If you write maker identify as IEN-6081

VENTILATING . . Non-metallic duct, Fiberglas is impregnated with silicone

Source: ARROWHEAD RUBBER CO.
11633 Patton Road, Downey, Calif.

The material shapes readily

ArcoSil No. 2184 designates new design of the company's non-metallic ventilating duct, previously described IEN-12136-45. The new construction employs Fiberglas impregnated with silicone rubber to withstand temperatures as high as 700 deg. F. and to remain flexible in cold atmospheres to minus 125 deg. F. The material resists aging and attack by ozone and most corrosive fluids and gases. It is resistant to abrasion.

Standard and custom-made parts include flexible duct and tube in specified diameters, either corrugated or plain or supported with helical wire. Fittings include tees, elbows, couplings, flanges in a range of designs.

If you write maker identify as IEN-6082

HEATING . . Rubber mat is equipped with a built-in element

Source: UNITED STATES RUBBER CO.
1230 Sixth Ave., New York 20, N. Y.

Uskon is the trade name

A center layer of electrically-conductive rubber constitutes the heating element in this new rubber mat. The element has sufficient capacity in operation on a 110-volt circuit to maintain normal temperature about 35 deg. above ambient temperature. Intended application is at any point where heat will impart comfort for a worker as at machines, in crane cabs, toll booths, warehouses, mine locomotives. Two sizes measure 18 by 24 in. and 24 by 36 inches.

If you write maker identify as IEN-6083

CONSTRUCTION . . Pneumatic machine delivers wet or dry materials

Source: BLASTCRETE EQUIPMENT CO.
11152-56 Santa Monica Blvd., Los Angeles 25, Calif.

Also will sand blast

Mixed concrete, refractories, light-weight aggregates, sand, dry or wet granular and powdered materials, filled into the top of this new machine, are delivered through a hose line to a nozzle from where they issue at controllable velocity and pressure. Three sizes of machine rate 1 to 3 cu. yd. per hour. The smallest of the three is particularly suited for general maintenance work on plant buildings and in replacing and reinforcing furnace linings. The machines require compressors of 105, 210 and 315 cfm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6085

INDUSTRIAL INKS To Mark Anything!

CAME 35

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings
★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

L. A. PHILLIPS President
PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER 14, N. Y.

If you write maker identify as IEN-6086

"Starting Load on Our 40 HP Crusher Motor Caused 400 amp. Ordinary Fuses to Blow . . . But Now 125 amp. Fusetron Fuses Let Motor Start and Give Burnout Protection, too"

"FUSETRON FUSES Save Time and Money in Other Ways, too!"

ED MEEKA,
Superintendent,
ROBINSON BRICK & TILE CO.,
Denver, Colorado

Mr. Meeka explains . . .

"We have a crusher driven by a 40 h.p. 250 volt motor. The starting load on this motor is often quite heavy and gave us no end of trouble by causing the 400 ampere fuses protecting the circuit to blow.

"Some months ago, after checking the actual running current of the motor with an ammeter, we decided to see if FUSETRON dual-element Fuses could live up to their claims.

"The ammeter reading indicated that 125 ampere FUSETRON Fuses should be used to give motor-running protection. So we installed this size.

"Were we surprised — they not only hold the starting current of the crusher motor — but we have the satisfaction of knowing the motor also has burnout protection to back up the overload relays in case they should ever fail.

"Not once since we installed FUSETRON Fuses have we lost a moment's production due to a fuse blowing needlessly."

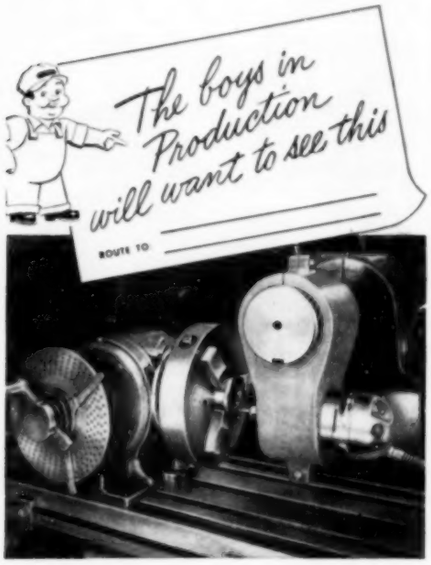
Why Risk Losses?

One needless shutdown, one lost motor, one destroyed switch or panel, one burned out solenoid . . . May cost you far more than replacing every ordinary fuse with a FUSETRON dual-element fuse.

FUSETRON
TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION
BUSS

BUSSMANN MFG. CO. (Div. McGraw Electric Co.)
University at Jefferson ST. LOUIS 7, MO.

If you write maker identify as IEN-6079



INEXPENSIVE MOTOR UNIT MAKES IDEAL HIGH-SPEED HEAD for milling non-ferrous metals

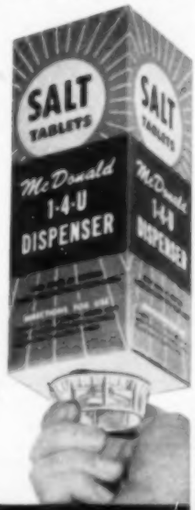
A mid-west manufacturer has given "new life" to a milling machine by simply mounting a Stanley No. 8 motor on the arbor support by means of a special bracket. Now, the 20,000 r.p.m. speed permits fast, smooth milling of narrow grooves on many non-ferrous parts. In the particular application shown, the piece is chucked on an indexing head and the narrow grooves (1/32" and 3/64" wide) are cut only part way around the piece.

You'll find many light milling jobs for the Stanley No. 8 motor in your plant . . . cutting oil grooves, keyways and circular grooves in brass and other non-ferrous metals. It's the inexpensive way to get a high-speed head for your present equipment. Moreover, the famous Stanley quality construction assures you of long trouble-free operation. Why not investigate these possibilities further? See your Dealer or write: Stanley Electric Tools, 414 Myrtle Street, New Britain, Connecticut.

STANLEY
Reg. U. S. Pat. Off.
HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

If you write maker identify as IEN-6084

KEEP energy AT THEIR FINGERTIPS!



McDonald 1•4•U Salt Tablets in handy throw-away dispensing cartons beat heat fatigue! Dispensers in 1000-tablet economy or 500-tablet sizes. Three types of tablets —*impregnated* to prevent nausea; *salt plus dextrose; and plain.*

WRITE FOR CIRCULAR

20 YEARS OF PROGRESS

B. F. McDONALD CO.
Manufacturers & Distributors of Industrial Safety Equipment
5721 WEST 96TH ST., LOS ANGELES 45, CALIF.
Other Offices in San Francisco & Houston

If you write maker identify as IEN - 6088

VINYL PLASTICS

Can Solve Your
PRODUCT PROTECTION Problems!

Vinyl Plastic Cover for Hay Shredding Machine

Custom-Designed By POLO For Your Special Requirements

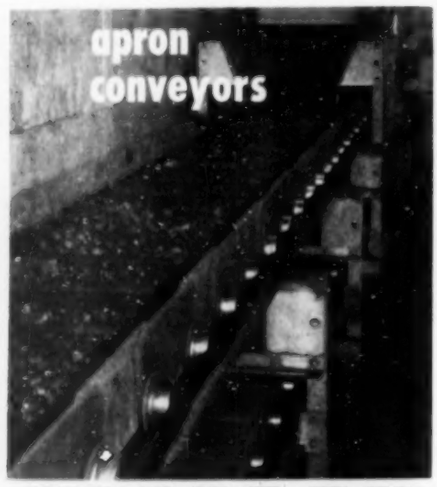
Use soft, flexible, tough VINYL PLASTIC to protect products in course of production or completed. Transparent or translucent—moisture and stainproof—conforming accurately to shape and size requirements. Electronically welded or Nylon sewed seams for utmost dust and moisture protection. Zipper or grommet fasteners.
Send drawings, specifications, or sample unit for recommendations and estimates. Sample swatch file upon request.

POLO plastic Protective Products

- ★ Machine Covers
- ★ Home Appliance Protectors
- ★ Instrument Covers
- ★ Automotive Specialties

POLO plastics co.
823 E. Chicago St., Milwaukee 2, Wis.

If you write maker identify as IEN - 6089

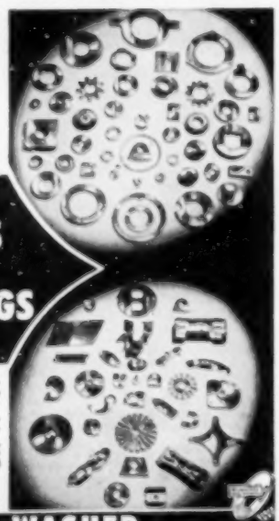


JEFFREY

ESTABLISHED 1877
THE JEFFREY MANUFACTURING CO.
914 Fourth Street, Columbus 16, Ohio

If you write maker identify as IEN - 6090

Serving **INDUSTRY**
SINCE 1887



WASHERS and STAMPINGS

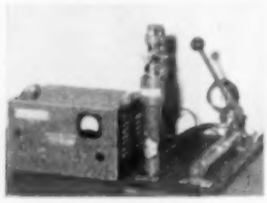
Standard and Special Washers, of every description, any material, any finish, utilizing more than 22,000 Sets of Dies.
Let us Quote on Your Needs.

WROUGHT WASHER MFG. CO.
THE WORLD'S LARGEST PRODUCER OF WASHERS
2207 SOUTH BAY STREET • MILWAUKEE 7, WISCONSIN

If you write maker identify as IEN - 6091

TESTING . . Surface resistance meter to check resistance welding performance

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



To assure good welds

New combination of microhmmeter and a hand-operated hydraulic sample holder apply in connection with resistance welding to read surface resistance through typical work samples as a means to check performance and warn against impending trouble.

A pair of sample pieces is placed between the electrodes in the holder and pressure is applied by operating the hand pump to simulate action between the electrodes in the welding machine. When the pressure has been built to a predetermined point, resistance is measured through the sample by means of the meter. It reads in two ranges from 0 to 200 and to 2,000 microhms. The reading is taken as an indication of probable good welds or need for improved cleaning prior to welding.

The meter measures 9½ by 15 by 11 in. and weighs 23 pounds. The sample holder weighs 30 pounds. It has a throat depth of 3 in. and electrode clearance of 2 inches.

If you write maker identify as IEN - 6092

CORROSION PROOFING . . Oil in 12-ounce pressurized container

Source: REYNOLDS INDUSTRIES INC.
4502 Euclid Ave., Cleveland 3, Ohio

$2.20 for single can

The company announces new packaging for the corrosion-proofing oil-base liquid known as Penetrol in 12-oz. pressurized containers. Pressing a button that rides in protected position at the top of the container delivers a spray of the liquid to cover a metal surface and to penetrate into minute pits and pores. The film hardens to a surface tack and forms an excellent base for paint after 24 to 48 hours.

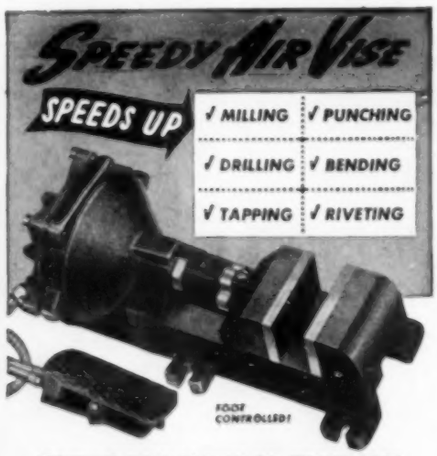
Application can be made on a rusted or a bare metal surface that has been cleaned to remove oil and grease and then dried. It will protect tools, screens, grating, machine parts against corrosion. Packaging is 12 of the new pressurized cans per carton.

Identify as IEN - 6093

Paper shredding, plastic and rubber dicing, rag, Orlon waste, thread waste, synthetic fiber cutting are representative work that can be handled on an experimental basis in the new Taylor Stiles & Company laboratory in New Jersey. You can send samples for test cutting to specified dimensions and fineness. The only charge is for actual handling.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6094



GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.
Complete with Foot Control, Air Hose and Fittings ..... only **$29.90**

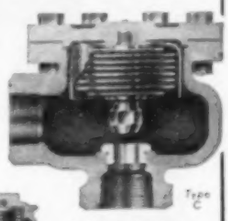
Prompt Delivery from Your Supplier or Write Direct
W. E. BROWN CORPORATION • 2643 N. Normandy Ave., Chicago 35, Ill.
AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

If you write maker identify as IEN - 6095

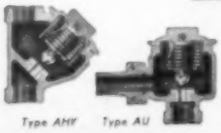
VARYING OPERATING TEMPERATURES ENDED

with Nicholson Steam Traps

The unusual effectiveness of Nicholson traps in discharging air as well as condensate was again proved recently by a large maker of molded products. Costly temperature fluctuation of the presses was eliminated by Nicholsons. Also widely used for such critical applications as jacketed kettles. 5 types; for process, heat, power; sizes ¼" to 2"; press. to 250 lbs.



Type C



Type AHY Type AU

BULLETIN 152
159 Oregon St.
Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.
TRAPS · VALVES · FLOATS

If you write maker identify as IEN - 6096

Grease Monkeys are loafing —since Transall took over

***Pre*-Lubricated**
Belt Conveyor Idlers

No Lubrication Labor
No Lubricant Cost

TRANSALL INC.
Manufacturers of a complete line of Belt Conveyor Equipment
117 North 11th St. Birmingham 4, Ala.

If you write maker identify as IEN - 6097

VIKING
FEATURES THAT MAKE FOR GOOD PUMPING

1. **ONLY TWO MOVING PARTS.** Both large and rugged and each self-supported. No small intricate parts requiring frequent replacement.
2. **SELF PRIMING** on suction lifts up to 19 feet or vaporization limits on volatile liquids. Smooth, even discharge. No pulsation.
3. **SLOW SPEED—LONG LIFE.** Reduced speeds of Viking pumps prolongs life and still retains large volume.
4. **OPERATES IN BOTH DIRECTIONS.** Viking pumps operate equally well in both directions. Simplifies ordering and installation.
5. **SINGLE STUFFING BOX.** Long, leak resistant stuffing box. Easily serviced.

VIKING
AN HONORED NAME IN PUMPING

Get the complete story on Viking Pumps for the industrial equipment field. Send for free copy of Bulletin Series 825P.

See Our Catalog in SWEETS

Viking PUMP COMPANY
Cedar Falls, Iowa

If you write maker identify as IEN-6098

Byron Jackson Co.
P. O. Box 2017, Terminal Annex, Los Angeles 54, Calif.
Offices in Principal Cities

Available in four sizes, capacities to 450 gpm, heads to 100 ft. Write for details.

If you write maker identify as IEN-6099

An accurate inexpensive and portable machine for engraving name plates and panels, forming small molds and dies, and profiling small parts. Geometrically correct for true three dimensional work. Accurately duplicates master copy in metals, plastics or wood. Rugged, sturdy construction.

COMPARE THESE SUPERIOR FEATURES

- Engraves in 2 or in 3 dimensions.
- Pantograph permits 4 reduction ratios.
- Micrometer depth control graduated in thousandths of an inch.
- High speed, ball bearing spindle.
- Chuck 1/4" to take variety of small tools, burrs, mounted points, as well as standard cutters.

Send for Illustrated Catalog

MICO INSTRUMENT COMPANY
81 Trowbridge Street Cambridge, Mass.

If you write maker identify as IEN-6100

A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.

If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You tamp it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired part is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Get it in 7 oz., 1, 5, 20, or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.

FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other smooth-on Cements. Leaks stopped, cracks sealed, loose parts made tight. 170 illustrations. Drop us a line for YOUR free copy.

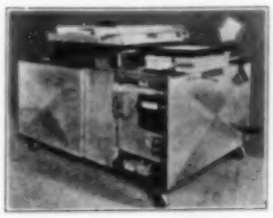
SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J.

Do it with **SMOOTH-ON**
THE IRON REPAIR CEMENT OF MANY USES

If you write maker identify as IEN-6101

PLASTIC MOLDING . . Vacuum machine to form heat sensitive plastic sheet

Source: SILL INDUSTRIES
51 Madison Ave., Room 3311, New York 10, N. Y.



Clamping frame hinges up

Model MV-2025 is a single-mold manually-operated assembly in the company's line of plastic vacuum-forming machines. A single vacuum box served by a motor driven pump is employed with a flat panel, electric radiant heater and timing controls to form flat thermoplastic sheet into desired shapes. The shape is determined by the contour of a mold placed inside the vacuum box in position to take the sheet material upon it and under a clamping frame that seals the edges of the sheet.

The radiant panel is rolled into position above the sheet on its supporting track, the movement operating a switch that closes the heater circuit and starts a predetermined timing cycle. At the end of this cycle the operator moves a lever connecting to a quick-acting valve to apply vacuum pressure beneath the sheet and draw it down into the mold. The heating panel is then rolled back on its track to clear the mold, the clamp is released and the finished work piece is removed.

The machine will form a sheet measuring 20 by 25 inches. Its heating panel has an effective area of 22½ by 27½ inches. Control equipment can be set to hold the temperature at 120 to 700 deg. F. within 5 deg. F. The machine will produce crystal-clear moldings from cellulose acetate, polystyrene sheeting that measures from 0.001 to 0.110 in. in thickness.

The vacuum pump is driven by a 1-hp. motor and rates 12.4 cfm. It will develop vacuum to 29.5 in. of mercury. Speed of evacuation is rated at 0.33 cfs. from the die cavity. The machine operates on 110-volt 60-cycle ac. and measures 65 by 50 by 45 in. in overall dimensions.

If you write maker identify as IEN-6102

ASSEMBLING . . Air hydraulic tool to stake terminals on electric wire

Source: THOMAS & BETTS CO.
60-A Butler St., Elizabeth 1, N. J.

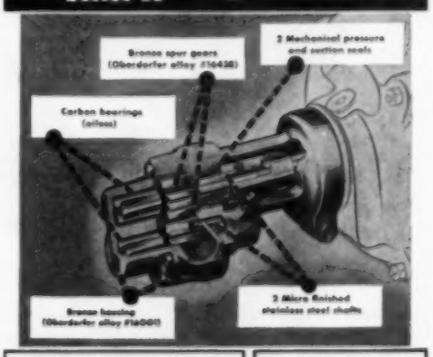
The tool weighs 40 ounces

Interchangeable dies apply in the head of this new terminal assembling tool to apply bare or self-insulated Sta-Kon terminals on AN or AWG wire from No. 22 to No. 10. The dies are spring loaded to hold the terminals while the wire is being inserted. They also can be made self-opening. The tool applies on a shop air line rating 75 to 150 pounds. It delivers 2-ton pressure upon the dies. It is suited for bench mounting or to be hand held. It can be actuated by a trigger or a foot-operated valve to meet requirements of an assembly operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN-6103

INTERNATIONAL BRONZE PUMPS Series II



DIMENSIONS & PRICES—Pump only				
Pump No.	Ht.	Width	Lgth.	Price
1½ CCC	2⅞"	21 1/16"	4¾"	$20.00
2 CCC	2 1/16"	2⅝"	4⅞"	22.50

Complete units with ½ hp 110 volt AC thermal overload motors (motor standard, but specially machined for pump mounting) . . . prices on request.

CAPACITIES—Gal. per min. 1725 rpm—lbs./sq.in.		
Press.	1½ CCC	2 CCC
0 lbs.	2.00 gal.	4.00 gal.
25 lbs.	1.83 gal.	3.67 gal.
50 lbs.	1.67 gal.	3.17 gal.
75 lbs.	1.58 gal.	2.92 gal.
100 lbs.	1.50 gal.	—

Oberdorfer Foundries, Inc., Ind. Pump Div.
1124 Thompson Rd. Syracuse, N. Y.

If you write maker identify as IEN-6104

STACKBIN sections will give you a stockroom wherever you want it—quickly and easily as building a sectional book case. These patented sectional storage bins nest together without the use of tools—cost you nothing to build, nothing to move. Find out today how STACKBINS can lower YOUR handling costs.

IMMEDIATE SHIPMENT
Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa
Write Stackbin Corp., 1077 Main St., Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

If you write maker identify as IEN-6105

The motor's not just connected, it's mated to the pump

The Worthington monobloc DN centrifugal pump has pump and motor mounted on *one* shaft—perfectly "mated" for compactness and rigidity.

It's all one unit—no base plate; no extra foot supports to contend with.

The same pump—with conventional stuffing box or mechanical seal—also comes in frame mounted CN models.

Capacities 10 to 1,800 gpm.

Worthington Corporation, formerly Worthington Pump and Machinery Corporation, Pump and Compressor Merchandising Div., Harrison, N. J.
PC.2.4

WORTHINGTON
Standard pumps

If you write maker identify as IEN-6106

Courtesy — Mercury Conveyor, Inc.

Can Straight-Chrome Stainless *help you beat the nickel shortage?*

If you're seeking to beat the nickel shortage — this all-stainless food conveyor carries a useful suggestion. The manufacturer had long used nickel-bearing stainless steel to make a sanitary unit.

Recent nickel controls, however, curtailed production—and made substitute materials necessary. But there were shop and fabricating practices to consider—in addition to appearance, sanitation and service life of the final product.

Frasse Technical Service was called in — and after study, Frasse engineers recommended Type 430, a straight-chrome stainless. It met all requirements—was freely available from Frasse warehouse stock.

Why not look into the possibilities of this grade? Send for Frasse Engineering Memorandum #8 describing properties and fabricating procedures of Type 430—it's free.

Peter A. FRASSE and Co., Inc.
17 Grand Street, New York 13, N. Y.
Lyndhurst • Philadelphia • Buffalo • Syracuse

Call FRASSE 1st for Stainless Steels
Bars • Sheets • Strip • Plate
Pipe • Tube • Wire • Valves • Fittings

If you write maker identify as IEN-6107

JOHNSON B BEARINGS
Sleeve-Type

If you write maker identify as IEN-6108

GAST rotary AIR MOTOR drives agitator for BONDACTOR CEMENT GUN

PROBLEM: Design to feed dry sand-cement aggregate uniformly from mixing hopper to airline of Bondactor Cement Gun.

SOLUTION: Agitate dry mixture with Gast 4 AM rotary Air Motor driven by compressor which supplies gun.

RESULT: Economy, dependability, and needed flexibility in feeding from ½ to 2 cu. yds. of concrete per hour. Unit withstands rough treatment, outdoor use by contractors.

Yes — this is another of scores of design problems solved with Gast rotary Air Motors. If rotary air power is a possibility on your product, let Gast engineers review your problem. You may profit from their concentrated experience with air power, low vacuum or pressure. Remember, "Air may be your answer!" Write for details.

Gast Application Ideas booklet — showing 26 design problems solved — sent upon request.

Original Equipment Manufacturers for over 25 years

GAST ROTARY AIR MOTORS · COMPRESSORS · VACUUM PUMPS
GAST MANUFACTURING CORP., Benton Harbor, Mich.

If you write maker identify as IEN-6109

top performance . . . economy with "RC" Flexible Couplings

"RC" Couplings—in 10 sizes, ⅜ to 12 in. bore.

Only the Link-Belt "RC" Flexible Coupling gives you single chain simplicity plus divided rollers. Divided rollers equalize the load . . . maintain proper balance at high speeds . . . adjust to reasonable misalignment and end float. There's a Link-Belt Roller Chain Coupling for ratings from fractional to 1000 hp. For complete information, write for "RC" Coupling Folder 2363.

LINK-BELT
"RC" FLEXIBLE COUPLINGS

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, Factory Branch Stores and Distributors in Principal Cities.

If you write maker identify as IEN-6110

TESTING . . Liquid dye and developer reveal surface flaws in metal parts

Source: TURCO PRODUCTS INC.
830-34 E. 62nd St., Los Angeles 1, Calif.

Starts with clean work

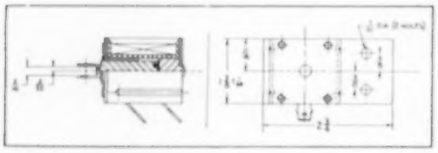
Chek-Spek trade names a new formula now available for surface-flaw detection in metal parts. It is a further development of the Dy-Chek formula, previously described IEN-2800-52. Difference between the two lies in the use of a vapor-degreasing operation for Chek-Spek in place of the dye remover used originally.

Inspection starts with spray application of the red dye on the work. This is followed by movement through the degreasing machine for removal of the surface dye. Then the white developer fluid is sprayed on. This fluid penetrates into any cracks or surface imperfections to seek out dye that was not removed by the surface degreasing operation. This remaining dye bleeds into the white developer to indicate the location and extent of any flaw.

If you write maker identify as IEN-6111

SOLENOID . . For intermittent pull on 110 volt 60 cycle ac. circuit

Source: SORENG MFG. CORP.
9553-57 Eden Ave., Schiller Park, Ill.



Small but husky

Small size, light weight, quiet operation and ability to operate in any position characterize new Model-12880 pull-type solenoid. It rates 1½ lb. on ¼ in. air gap and 115-volt operation. This rating increases to 3.1 lb. in sealed position. A shading coil in the base of the plunger supplies high sealing pull. The unit is available with plug-in terminals, solder lugs, screw terminals or wire leads. The coil can be wound for 24 to 220-volt operation. The main housing measures about 1½ by 1⅜ by 1⅝ inches overall.

Identify as IEN-6112

Vacuum equipment has been developed for use with Monsanto Chemical Company's pentachlorophenol liquid to treat sash, frames, millwork for preservation. The liquid makes the wood water repellent, resistant to attack by fungi and insects. It imparts dimensional stability. First assembly of the equipment is now in operation in Dubuque, Iowa.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6113

WHERE CAN YOU USE A VARIABLE VOLTAGE ADJUSTOR

• Bulletin VA-180 gives complete specifications of Acme Electric Variable Voltage Regulators in ratings from 150 watts to 10 KVA. Write for copy.

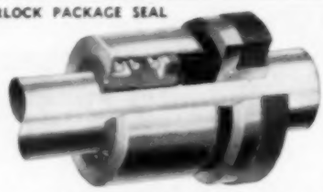
Many industrial maintenance and operating problems can be quickly solved by the installation of a Variable Voltage Adjustor to manually control a low voltage or fluctuating voltage circuit. This is particularly true where a voltage drop at electrically powered equipment, located a considerable distance from a transformer, reduces the performance, efficiency and prevents normal operation. If you have a condition like this in your plant write for Bulletin VA-180.

ACME ELECTRIC CORPORATION
266 WATER ST. CUBA, N. Y.

Acme Electric
TRANSFORMERS

If you write maker identify as IEN-6114

GARLOCK PACKAGE SEAL



GARLOCK MECHANICAL SEALS SAVE 3 WAYS

1. Reduce leakage of costly or hazardous liquids on rotating shafts.
2. No wear on shaft or shaft sleeve.
3. Long life with less production loss and lower repair cost.

Yes, it is economical to use Garlock Mechanical Seals whenever leakless operation of rotary shafts on pumps or other equipment is required.

For complete information write for our Mechanical Seal Booklet

THE GARLOCK PACKING CO.
PALMYRA, NEW YORK
In Canada: The Garlock Packing Company of Canada Ltd., Toronto, Ont.

GARLOCK

If you write maker identify as IEN-6115

MOLY-LUBE
TRADE MARK

½ POUND NET
POLYETHYLENE
SQUEEZE BOTTLE
"A HANDY TOOL"

MOLYBDENUM DISULFIDE POWDER for Dry Lubrication or Additive in other Lubricants

•

ANTI-GALLING & ANTI-SEIZING
under conditions of
HIGH PRESSURES & VELOCITIES
EXTREME TEMPERATURES
(—125° F. to +750° F. in Air)
DIELECTRIC

NEW PRICES—f.o.b. Great Neck, N. Y.
MOLY-LUBE "99" (99% pure) $3.00 each; 3 bottles, $7.50
MOLY-LUBE "SUPER" (99.9% pure) $3.50 each; 3 bottles, $9.75
Both within military specification MIL-L-7866 (AER)

MOLY-LUBE PRODUCTS
309 EAST SHORE ROAD, GREAT NECK, N. Y.

If you write maker identify as IEN-6116

POTDEVIN
50" wide conveyor
GLUING MACHINE
and
COMBINING PRESS

60 years of dependable service

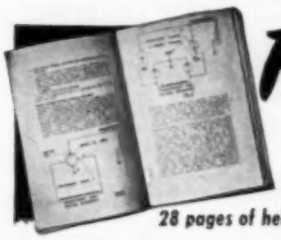
Handles webs or sheets. Thermostat control for hot glues. Patented dial control regulates coating of adhesive. Single adjustment for overall pressure of combining rollers.

Consult our engineers on any coating problem. Literature on request.

POTDEVIN MACHINE CO.
213 North Street
Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

If you write maker identify as IEN-6117



Free!

FROM WESTERN PRECIPITATION

28 pages of helpful facts about

COTTRELL ELECTRICAL PRECIPITATORS

THIS HELPFUL 28 PAGE BOOKLET — Prepared by Western Precipitation Corporation, pioneers in the commercial application of COTTRELL Precipitators — summarizes and illustrates many of the basic facts you should know about COTTRELL Precipitators for use in recovering industrial dusts, mists, fogs, fumes, fly ash and other suspensions from gases. Written particularly to answer questions of design engineers, plant engineers and others interested in COTTRELL Precipitators, this booklet outlines the various types available, how they operate, principal types of electrical systems and rectifiers, shell construction, other helpful data.

As long as the supply lasts, a free copy will be sent on request to our nearest office. Write for Bulletin No. C103 today!

WESTERN Precipitation CORPORATION

DESIGNERS, ENGINEERS & MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS

Main Offices: 1011 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 LaSALLE ST. BLDG., 1 N. La SALLE ST., CHICAGO 2 • HOBART BUILDING, SAN FRANCISCO 4, CALIFORNIA
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

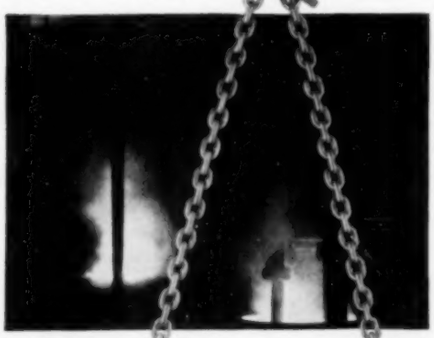
If you write maker identify as IEN-6118

NONE BETTER...
America's First and Safest
HERC-ALLOY
SLING CHAINS

STRENGTH—Size for size, no other sling chain offers a greater tensile strength. HERC-ALLOY will not crystallize—never requires annealing.

SAFETY—HERC-ALLOY Sling Chains are made to your specifications. Every new sling carries a written guarantee, is registered and tested before shipping. This registration serial number is carried at the top link.

● Serial number permanently affixed near top link for positive identification.



● Identify HERC-ALLOY by the patented Inswell side weld with the extra swell of metal on the inside of the link.

EFFICIENCY—Lighter, stronger HERC-ALLOY Sling Chains feature the exclusive short, narrow link design which holds firmer, less tendency to kink, less gouging. Workmen handle HERC-ALLOY with less effort.

PREFERENCE—Men who buy and use sling chains are influenced only by facts learned through experience. HERC-ALLOY Sling Chain preference has been built up over the years, not just by what we say, but by how HERC-ALLOY performs on the job.

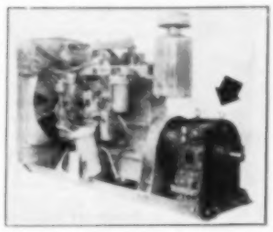
Write for Data Book No. 3 which contains much useful manufacturing and application information on HERC-ALLOY Sling Chains.

COLUMBUS McKINNON CHAIN CORPORATION
(Affiliated with Chisholm-Moore Hoist Corp.)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
District Offices: New York • Chicago • Cleveland
Other Factories at Angola, N. Y., Dixon, Ill., St. Catharines, Ont., Can., and Johannesburg, South Africa.

If you write maker identify as IEN-6120

DRIVE . . Hydraulic transmission mounts torque converter and coupling

Source: TORCON CORP.
1152 W. 5th St., Ashtabula, Ohio



Pictured in Bulletin TC-639

Model 17-K designates a new single-stage three-element hydraulic transmission for application on internal combustion engines rated to 300 horsepower. It couples direct to the engine and mounts a roller-bearing output shaft that is supported in the transmission housing. Drive connection involving side pull can be assembled without additional outboard bearing support. A cut-off clutch can be added to specification. Installation requires bolting to the engine's flywheel housing and connecting two lines to the oil cooler.

Major elements consist of a converter pump, reaction member and converter turbine. Each is a single-piece vane-equipped aluminum casting. Torque multiplication is highest at zero output speed. It gradually decreases as output speed increases until a point is reached where output and input torque are equal. The engine operates at practically constant speed during this converter range so overload will not cause stalling. When the torque ratio is equalized the reaction member floats freely and the assembly acts as a hydraulic coupling. In this range the output speed increases in nearly direct proportion to increase the engine speed.

The transmission is particularly suited for application on construction equipment, locomotives, material-handling equipment. Oil employed in the hydraulic circuit also lubricates bearings with controlled flow returning to a reservoir.

If you write maker identify as IEN-6121

LIGHTING . . Incandescent fixture focuses bright spot at its center

Source: LINDLY & CO.
246-50 Herricks Road, Mineola, N. Y.

Bright center spot

Reflected rays from the incandescent lamp in this new Bulls-Eye fixture can be adjusted to converge at the center. Then they provide a concentrated spot about four times the brightness of the surrounding illumination. Adjustment is made by turning a plastic ring at the reflector base. The assembly is available with a table base, as shown in the illustration, or with a bracket base or a universal clamp to attach to any shape to 3 inches in greatest dimension as a mounting support.

The vertical arm is 19 in. in length. The horizontal movable arm measures 14 inches. The reflector is 7¼ in. in diameter. Operation is on 110-volt ac. with a frosted or clear incandescent lamp. A 100-watt lamp is standard equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6122

Making Warm Friendships on Hot Jobs

WATER JACKETED APCO PUMP
Developed especially for the efficient handling of high temperature and highly volatile liquids. Delivers outstanding performance. Unbeatable on high head, small capacity duties.

PUMPS "by Aurora"

For Every Purpose

APCO Turbine-Type PUMPS
—ideal for "100" duties where small capacities and high heads predominate. Get acquainted.

AURORA CENTRIFUGAL PUMPS
are available in many types and sizes—all noted for their streamline coordination between impellers and shells.

We Invite Your Special Pump Problems

Write for CONDENSED CATALOG "M"

DISTRIBUTORS IN PRINCIPAL CITIES

Aurora Always PUMPS

AURORA PUMP COMPANY
52 Lewis Street • Aurora, Illinois

If you write maker identify as IEN-6123

STOP DOWN TIME ON AIR-OPERATED EQUIPMENT With the HANNIFIN "AIR WARDEN"

High production schedules *DEMAND* continuous performance from air-operated equipment. So Hannifin developed the "Air Warden" as the finest protection possible.

One complete "Air Warden" unit FILTERS AIR — REGULATES PRESSURE — LUBRICATES —*Simultaneously!*

GET ALL THE DETAILS ON HANNIFIN'S MONEY-SAVING "AIR WARDEN"!
Components sold singly or in any combination. Write for literature.

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Illinois

If you write maker identify as IEN-6124

MORE PRODUCTION Per Worker With Wayne Industrial Hose Reel

AIR SUPPLY AND TOOL SUSPENSION COMBINED IN EASILY-MOUNTED REEL

Wayne Industrial Hose Reels can boost job output, help reduce assembly costs and lessen worker fatigue in your plant. Air supply and tool suspension are combined to give greater working radius, and "spot" air supply for tools.

Air tool is within easy reach at all times. No cables or dangerous loops of hose to cause accidents. Hose is completely protected on Reel when not in use.

Spring tension of Reel counterbalances air tool. Ratchet holds hose at any desired length until released by a short fast pull. Then hose automatically rewinds on the Reel. Automatic braking prevents whipping or lashing action. Reel can be mounted in many convenient positions.

Find out how Wayne Industrial Hose Reels will fit into your production picture profitably.

THE WAYNE PUMP COMPANY
LAUREL, MARYLAND

Wayne
NATION WIDE SERVICE

INDUSTRIAL HOSE REELS
FOR AIR, WATER, FLUID LUBRICANTS AND COOLANTS

If you write maker identify as IEN-6125

SUPERSENSITIVE BALANCER!

New CROWN BALANCING WAYS

NO CENTERING NEEDED!

Gives Quick Static Balance of ARMATURES FLY WHEELS CRANKSHAFTS FANS, etc.

● Eliminates trial and error method of detecting "heavy spots" in rotating parts. Free turning discs, mounted on ball bearings insure least friction and highest possible sensitivity. Load Capacities of 400 to 5000 lbs., swing 10" to 60". Easily portable.

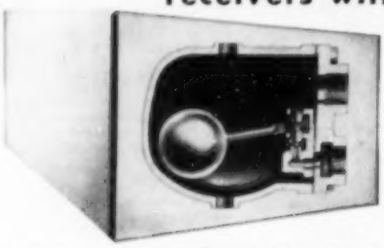
WRITE FOR DETAILS

CROWN INDUSTRIAL PRODUCTS
402 Borden Avenue
Sycamore, Ill.
Please send catalog data and prices on CROWN Balancing Ways

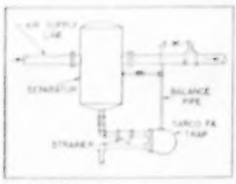
Name
Company
Address
City Zone State

If you write maker identify as IEN - 6126

Drain compressed air receivers with



SARCO FA DRAIN TRAPS



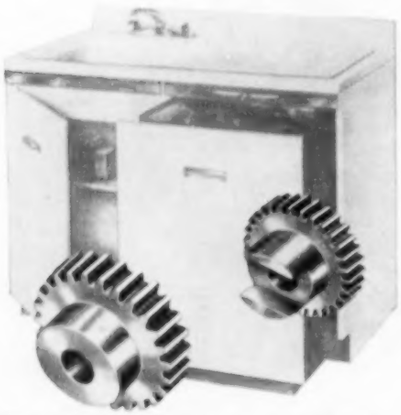
Type FA Trap draining separator.

...also your intercoolers, aftercoolers and separators. These traps automatically release condensate as it forms...without the waste of air that occurs when blowdown valves are used. New technical bulletin No. S-CA offers many suggestions as to how you can increase the EFFECTIVE capacities of your air compressors. Write today for your free copy. No obligation...of course.

513

sarco COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

If you write maker identify as IEN - 6127



Dishwasher Assures Top Performance with G. S. GEARS

The name GENERAL ELECTRIC and the familiar G.E. trademark have long been famous for top-quality performance and materials *plus* long-lasting dependability. The new G.E. Automatic Dishwasher is no exception! G.S. Fractional Horsepower Gearing is a very important factor in the soft, purring performance of this excellent appliance. G.S. craftsmen take pardonable pride in UNIFORMLY mass-producing Gears to such exacting specifications for so distinguished a manufacturer! ★ If smoother, quieter, longer-lived Small Gearing is a consideration in YOUR business, by all means entrust your needs to the long, successful experience and large, modern facilities of G.S. Call us in at the drawing-board stage. Let our specialists lend you valuable aid in the design and most economical *quantity* production of the Gearing best suited to your requirements.

SEND FOR... the G.S. 6-page illustrated folder. It describes and illustrates G.S. facilities. Small Gearing and applications, together with handy charts. Will you ask for it on company stationery, please? No obligation, of course.

GEAR Specialties, Inc.
Spurs · Spirals · Bevels · Internals · Worm Gearing · Racks · Thread Grinding
2835 WEST MEDILL AVE., CHICAGO 47, ILL.
WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF FRACTIONAL HORSEPOWER GEARING

If you write maker identify as IEN - 6129

DRYING . . Dielectric equipment to set the glue in wood assemblies

Source: WOODWELDING INC.
3002 W. Olive Ave., Burbank, Calif.

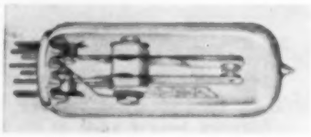
Skill not essential

Model FC2000 is a new 2-kva. electronic high-frequency generator and an electrode head, also new, particularly to assemble finished plywood panels on a wall by supplying the high-frequency energy that will cause glue to set at the rear of the panel. The new head and its resonant-gap electrodes can be moved continuously over the polished face of a finished plywood panel to result in essentially instantaneous bonding between the panel and its backing plate without leaving any marks on the polished panel surface. Operation is on a 110-volt 60-cycle ac. line. The panel application was developed in cooperation with United States Plywood Corporation.

If you write maker identify as IEN - 6130

RELAY . . Time delay unit with contacts operated by heater coil

Source: AMPERITE CO.
561 Broadway, 7th Floor, New York 12, N. Y.



Contacts rate 2 amp. on 110 volt ac.

New assembly of the company's time-delay relay, previously described IEN-3686-45, now employs T6½ 9-pin miniature base. As in the previous design the mechanism is hermetically sealed and is not affected by altitude or other climatic conditions. It is compensated for ambient temperature in a range between 60 and 160 deg. F. It is particularly suited for installations involving vibration.

The delay interval is timed by heater coils secured to one of the two contact arms. Delay interval is from 2 to 90 seconds. The heater operates on 6.3, 26 or 115 volts with input at about 2 watts. The contacts can be set for single-pole single-throw normally-open or normally-closed operation.

Identify as IEN - 6131

A company operating equipment in a plant where the atmosphere contains strong concentrations of acid had a lot of trouble with bearing failure. Then it installed Alemite Oil-Mist lubrication in which an oil fog is carried by low-pressure air into the bearings. The slight continuous escape of air from each bearing now keeps the acid fumes out and the equipment running smoothly.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 88

If you write maker identify as IEN - 6132

Elliott has a background of more than 50 years . . . exclusively in . . .

FLEXIBLE SHAFTS

Elliott specializes in Heavy Duty Flexible Shaft units for power take-off of truck and tractors, for operating pumps, compressors, winches, and similar units * Elliott supplies Flexible Shafts to builders of Grinders, Sanders, Polishers, Concrete Vibrators and other portable tools for working in metals, plastics, wood and ceramics * Elliott manufactures Cores with windings and materials to suit every particular requirement, using the best grades of Full Music wire, Stainless Steel wire, or High Carbon wire . . . to fit the job.

Bring your Power Transmission Problems to . . .

Elliott Engineering Service will help you select the type of Flexible Shafting and standard accessories which are best suited to your particular type of work. Inquiries are held in confidence, and this service is yours without obligation.

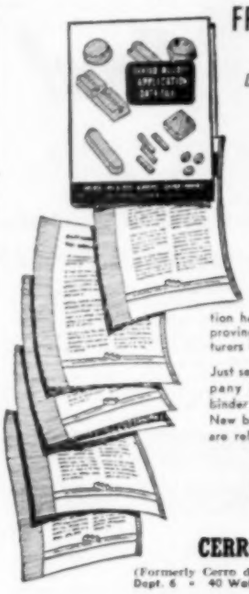
Elliott MANUFACTURING CO.
200 Prospect Ave., Binghamton, N. Y.

Ask for Circular 207 • See our Catalog in SWEET'S File for Product Designers

If you write maker identify as IEN - 6133

FREE LITERATURE—

Send for Latest Engineering Data NOW!



WE are offering our convenient loose-leaf binder and informative engineering literature releases to those interested in keeping abreast of new developments in Cerro alloys and procedures. These low-temperature-melting alloys and special methods of application have been saving time and improving products for many manufacturers for over 20 years.

Just send us your name on your company letterhead and receive the binder and all literature to date. New bulletins will reach you as they are released.

CERRO de PASCO Corp.
(Formerly Cerro de Pasco Copper Corporation)
Dept. 6 • 40 Wall Street • New York 5, N. Y.

If you write maker identify as IEN - 6134

Made especially for YOUR job!

RO-FIN TUBES

- Straight Lengths
- Custom Designed Coils
- U-Bends
- Unusual Combinations

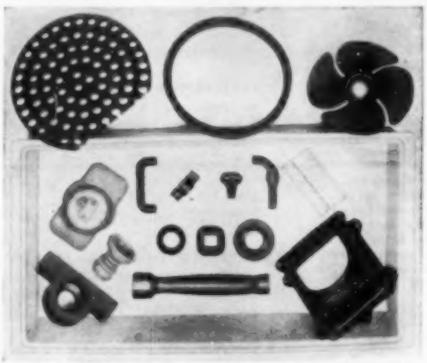
ROME EXTENDED SURFACE HELICAL FIN TUBING

comes in many sizes. Fins are solder bonded for permanent integral contact. Used extensively for building refrigeration condensers, blast air cooling or heating coils, inter-coolers and after-coolers, dry cleaning recovery coils. Write for details.

ROME
TURNEY RADIATOR COMPANY
200 East Front Street Rome, New York

If you write maker identify as IEN - 6135

RUBBER DOES IT!



Only rubber does that job so vitally necessary in countless applications — resists the damaging action of oils, gases, fluids, greases, continuous flexing, abrasion, extreme high and low temperatures, and many other problem conditions. Throughout industry, Acushnet precision-molded rubber parts and products of natural and synthetic rubber are performing their jobs with the greatest efficiency and economy. We'll gladly suggest remedies for your troublesome applications.

Acushnet PROCESS COMPANY
NEW BEDFORD MASS., U. S. A.
Address All Correspondence to 760 Belleville Ave., New Bedford, Mass.

If you write maker identify as IEN-6136

PRECISE TEMPERATURE MEASURING BEGINS WITH PRECISE THERMOCOUPLES

Installing dependable, responsive thermocouples at source of heat assures accuracy of temperature readings. There's a Thermo Electric Couple for your requirements—Industrial Furnaces and Ovens — Plastic Molding Machines — Chemical Processes — Oil Refining — Aircraft and Diesel Engines — or any process or product using pyrometric equipment.

You can depend on these thermocouples for accuracy, responsiveness and long life.—They are designed for specific applications and are made to exacting standards.

Available in all thermocouple calibrations with Protection Tubes, Quick Coupling Connectors, Lead Wires and Accessories.

Chromel Alumel Thermocouple with Connection Head and Protection Tube.

Tubular Iron Constantan Thermocouple showing weld of hot junction.

Our 36 page Catalog Q describes all our equipment. Write for your copy today.

Thermo Electric Co. Inc.
FAIR LAWN NEW JERSEY

If you write maker identify as IEN-6137

Everyone Can Count on VEEDER-ROOT

Here's still another good soldier, on a highly special assignment. With contact assembly, it counts miles and yards, when used in conjunction with other equipment. And it also makes contacts on *predetermined* readings . . . *direct* readings that need no translation.

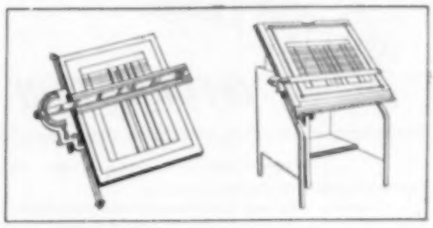
Now, as the counting process comes to be counted as more and more indispensable to all types of defense materiel, what might we do...*especially for you?* Just say when you'd like to get together...*and start figuring.*

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONN.

If you write maker identify as IEN-6139

DRAFTING . . Spacing machine for parallel lines at variable intervals

Source: MICHAEL LITH CO.
141 W. 45th St., New York 36, N. Y.



$69.50 to $124.50 $470.

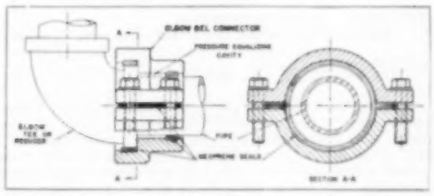
Stainless steel straight edge, plain or with transparent plastic edges, is assembled on a protractor head that slides at one side of this new Paraliner Forms Ruler. The protractor permits setting the straight edge square or at a desired angle. The head contains a micrometer adjustment and a "hitch" feed by which the straight edge can be moved along in divisions as set by the micrometer to one inch.

Four sizes are provided with boards measuring 14 by 19 in. to 36 by 36 inches. In addition to the board assembly, the company is prepared to supply the equipment with an illuminated glass-top table, as shown to the right in the illustration. This assembly employs a 26 by 26-in. top.

If you write maker identify as IEN-6140

PIPE FITTING . . Sealing clamp encloses leak and acts as connector

Source: HOLOAL MFG. CORP.
P. O. Box 95-A, Bellerose 26, N. Y.



For water, steam, fuel oil, gasoline

Two-part cast-iron fitting, shown as a pipe-to-elbow connector in the illustration, has been developed to enclose a leak by means of captured neoprene gaskets when four clamping screws are tightened in place. The unit also acts as a connector fitting that is particularly suited for temporary pipe line installations. Pressure capacity is to 60 pounds.

In addition to the line-to-fitting unit, as shown, a straight assembly encloses a leak along a pipe line or connects two lengths of pipe so no threading is required. In either case application can be made while the pipe remains in service. The sealing gaskets form a chamber inside the clamp that equalizes pressure on the two sides of the defect in the pipe to minimize tendency for the defect to grow any larger until a permanent repair can be made.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6141

Before you select a Temperature Regulator, compare low-cost Stacon with the rest. No other regulator has as many features or offers as many advantages as a Farris Stacon.

PROVE IT!

Make this Chekchart Test

	Farris Stacon	Air Operated	Self Operated
• Dirt Proof — Hermetically Sealed?	Yes		
• Extreme Accuracy?	±1°		
• Packing or Glands to Leak?	No		
• Drop-tight Shut off?	Yes		
• Vapor-steam Energized Super Power Pilot?	Yes		
• Supervision—Maintenance?	None		

Write for Stacon Bulletin 50-1000. It contains complete information on the most sensitive, accurate, economical temperature regulator available . . . anywhere.

Farris Stacon Corp.
232 COMMERCIAL AVE. PADISADES PARK, N. J.

If you write maker identify as IEN-6142

For those Auxiliary Handling Jobs

MERCURY "SHUTTLE-TRUK"

• Battery powered • 2000 lb. capacity • 82-in. turning radius

For those emergency calls . . . for maintenance and service jobs, the SHUTTLE-TRUK gives you quick, immediately available handling capacity. Brings heavy materials, tools, machinery right to the job . . . and the operator rides with the load! Carries 2000 lbs. on its broad platform . . . or hauls heavy trailers. Compact design, easy steering make the SHUTTLE-TRUK maneuverable in narrow aisles. Clean, quiet battery power permits SHUTTLE-TRUK to work where gas vehicles can not. Write for Bulletin No. 190.

MERCURY
FORK TRUCKS · TRACTORS · TRAILERS

MERCURY MANUFACTURING CO. 4132 S. Halsted St., Chicago 9, Ill.

If you write maker identify as IEN-6143

If you write maker identify as IEN-6144

CURTIS Type "K" BLOCKS

TYPE:
Lock-in style, factory molded from 1 to 18 terminals.

TERMINALS:
Dual-purpose screws clamp lugs in positive electrical contact and locked-in security.

LUGS:
Provided. Spade-type that are solder coated to facilitate the soldering of wires.

Write for Bulletin DS-114. For quick reference consult our condensed catalog in the McGraw-Hill Electrical Catalog for Production Engineers.

CURTIS DEVELOPMENT & MFG. CO.
8214 NORTH 33rd STREET • MILWAUKEE 16, WISCONSIN

If you write maker identify as IEN-6145

A versatile performer . . .

GOULDS
"Support-Head" Centrifugal Pump

Here's a pump that's ready to go to work, handling any one of a dozen jobs. For example, you can use it for general industrial pumping, booster service, water supply systems, liquid circulation, and air conditioning service.

Its extra heavy, well proportioned construction minimizes pump maintenance. Full open-top design provides ready access to gland and stuffing box . . . a particularly important feature in inaccessible locations. Goulds Fig. 3750 ball bearing support-head centrifugal pumps are available with direct or belt drive. Capacities up to 3000 G.P.M. Heads up to 400 ft. Write for Bulletin 715.I.

Goulds PUMPS INC. Seneca Falls New York

If you write maker identify as IEN-6146

MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS

LIFT OR LOWER— FLOOR TO FLOOR WITH A

STANDARD INCLINEBELT

Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; two belt widths to handle commodities 15½ inches to 25½ inches wide. Electric motor operated. Write for INCLINEBELT Bulletin — address Dept. IEN-62.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

If you write maker identify as IEN-6147

FREE!

61 PAGES OF FACTS, FIGURES, PHOTOS ON

BARREL FINISHING

Learn the latest on labor-saving, cost-cutting advanced barrel finishing. These three eye-opening booklets give you the most complete story on barrel finishing ever told! The inside facts on amazing new developments in equipment —compounds—techniques. Write Dept. G-6 for FREE booklets.

ALHCO Supersheen
AMERICA'S LARGEST MFGR. OF ADVANCED BARREL FINISHING EQUIPMENT, MATERIALS & COMPOUNDS
ALBERT LEA, MINNESOTA

USEFUL NEWS NOTES INFORMATION

If you write maker identify as IEN-6148

CENTRIFUGALS . . Booklet traces history of company's Tolhurst Centrifugals Division from 1852

American Machine & Metals Inc.
552-56 12th Ave., East Moline, Ill.

Commemorative booklet, "100 Years of Centrifugal Advancement," shows the part played by centrifugal machines in daily life, describes examples of their use in process industries, reviews types of available machines. Drawings and condensed text trace history and development of the company from 1852 to date.

If you write maker identify as IEN-6149

CONNECTORS . . Two movies give instructions on how to apply solderless terminals by hand and machine

Aircraft-Marine Products Inc.
2102 Paxton St., Harrisburg, Pa.

Uses, application, inspection and quality control of solderless terminals for stranded or solid wire are shown in detail by two new 16-mm. color sound films. "All's Well that Ends Well" describes application by hand tools. "By the Millions" describes machine application at speeds to 4,000 per hour. The two films are intended primarily for instruction.

If you write maker identify as IEN-6150

CONTROLS . . Booklet on thermistors describes how to select, specify and apply these elements

Carboloy Dept.
11167 E. 8 Mile Road, Detroit 32, Mich.

Catalog TH-5, 32 pages, starts with a definition of a thermistor as a temperature-sensitive resistor. It goes on from there with a description on basic characteristics, includes a set of properties curves on rod, disc and washer types, together with tables of standard specifications. Schematic drawings show use as temperature control, time delay, flow meter, overload protectors, switching devices.

If you write maker identify as IEN-6151

DRIVES . . Application stories in series of 22 data sheets on "Cone-Drive" speed reducer

Michigan Tool Co.
7169-73 E. McNichols Road, Detroit 12, Mich.

Each data sheet in new series of "Gear Reference Information" describes a specific application of the company's double-enveloping worm-gear speed reducer. Sheet 501 tells how the reducer is used to start a car-unloader conveyor under full load. Sheet 508 describes an improved model of a shearing machine based on compact design of the reducer. Sheet 522 is on designing of compact machine drives.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6152

BENDIX FRIEZ Bendix-Friez THERMISTORS
NEGATIVE TEMPERATURE CO-EFFICIENT CERAMIC RESISTORS

● These temperature responsive resistors are useful as temperature measuring elements and as liquid level sensors; they are especially well suited to compensation where the circuit constants must be maintained irrespective of temperature changes. Since they are a fired ceramic, they are stable under practically all conditions and respond only to temperature changes.

Typical application in capsule form for temperature sensing of hydraulic oil.

Many other values can be obtained from standard diameter material. Because the thermistors are made in our own plant, under extremely careful control, special compositions, shapes, and resistance values, hermetically sealed or otherwise protected, can be made in any quantities to suit your individual requirements.

We invite your Inquiries Write Dept. H

BENDIX-FRIEZ STANDARD ROD TYPES

Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x ¾	45 ohms	88 ohms	193 ohms
.040 x 1.5	14,000 ohms	29,946 ohms	74,676 ohms
.018 x 1.5	40,000 ohms	94,040 ohms	262,400 ohms

FRIEZ INSTRUMENT DIVISION of Bendix
1334 Taylor Avenue • Baltimore 4, Maryland
Export Sales: Bendix International Division 72 Fifth Ave. N.Y. 11, N.Y.

If you write maker identify as IEN-6153

TAP-LOK INSERTS

. . . for strong tapped threads in soft materials

INSTALLATION

1 Simple driving tool with threaded stud engages interior thread of insert.

2 Driver turns self-tapping insert into cored or drilled hole equal in size to tap drill hole for external thread of insert.

*Reg. U. S. Pat. Off.

Stripping of tapped threads in soft materials is easily prevented by the Tap-Lok Insert*—a hard steel bushing. Being self-tapping and simple to install, it is widely used in original installation in soft metals, plastics and other materials. It is also extensively used for salvage of rejects and for maintenance. Adoption of the Tap-Lok Insert can have an important effect on the cost and the sale of your products.

3 After insert is seated, male threaded member is driven into interior thread of insert.

Send for samples and descriptive folder.

Also manufacturers of Groov-Pins — for positive locking press fit.

GROOV-PIN CORPORATION
1127 Hendricks Causeway, Ridgefield, N. J.

If you write maker identify as IEN-6154

For Unusual Applications, too—

UNIVERSAL METAL HOSE

— adds flexibility, portability and durability!

For example — the Electric-Aire dryers use "UMH" aluminum flexible tubing for easy directional adjustment and application of preheated air in drying plastic casts in fracture cases and in shock treatment.

Perhaps you have a specific problem in conveyance of gases, liquids, semi-solids, dust, granular materials—give us the particulars and we will be glad to make recommendations—no obligation, of course.

Write for Catalog U-101

UNIVERSAL METAL HOSE CO.
2131 S. Kedzie Avenue • Chicago 23, Illinois

If you write maker identify as IEN - 6156

REALOCK FENCE

gives **locked-in** protection

All fittings on Realock Fence have bolts so placed that nuts cannot be removed from the outside. This means that Realock Fence provides *added protection* for your grounds and property . . . effectively discourages tampering by would-be trespassers.

Strongly constructed, Realock Fence has high resistance to the elements because of a special galvanizing process . . . gives permanent protection and trouble-free service year after year. For additional information write our nearest sales office or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Buffalo, New York

REALOCK FENCE
THE COLORADO FUEL & IRON CORPORATION
CF&I
BRANCHES IN ALL KEY CITIES

If you write maker identify as IEN - 6157

TOWMOTORS IN ACTION IN U. S. INDUSTRY

Stacking drums of liquid soap ceiling high at Eastman Kodak Company, Rochester, N. Y.

Use every inch . . . stack to the roof, save space, double your storage area. You can do it easily, quickly, economically with a Towmotor fork lift truck. Towmotor handles all types of material. For the name of your nearest Towmotor Representative and a copy of Towmotor's tabloid size magazine on materials handling, write Towmotor Corporation, Div. 26, 1226 E. 152nd St., Cleveland 10, Ohio.

TOWMOTOR THE ONE MAN BAND — **FORK LIFT TRUCKS and TRACTORS**

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION

If you write maker identify as IEN - 6158

fmc **Industrial BOX FRAMER**

With three strokes on one machine a single operator frames a box in less than one minute. Makes any size box from 19½" to 50" long x 9" to 26" square. *Ten times faster than hand nailing. Write for illustrated bulletin.*

FOOD MACHINERY AND CHEMICAL CORPORATION
PACKING EQUIPMENT DIVISION
RIVERSIDE, CALIFORNIA DEPT. D

USEFUL INFORMATION
(Continued)

If you write maker identify as IEN - 6159

CASTINGS . . How malleable iron is made is shown pictorially by new color sound motion picture

Malleable Founders Society
452 Union Commerce Bldg., Cleveland 14, Ohio

"This Moving World" uses Technicolor pictures and narration by Edwin C. Hill to describe how malleable iron is made, tested and used in manufacture of a variety of products. The 16-mm. film has a showing time of 30 minutes. It is available for group showing without charge.

If you write maker identify as IEN - 6160

CHUCKS . . How they are made and used is shown in new 30-minute color sound motion picture

Skinner Chuck Co.
342-46 Church St., New Britain, Conn.

Chuck components, assembly, mounting and application are described by new 16-mm. Kodachrome sound film, "Chucks and Their Uses." Other points include spindle noses and mounting, tests for runout and balance, power requirements of machine tools. One scene shows stresses and strains in a 10-in. plastic chuck when viewed under polarizer light. The new film is available without charge for group showing.

If you write maker identify as IEN - 6161

CUTTING . . How to figure corrected diameter of circular and flat form tools that apply in a screw machine

Boyar-Schultz Corp.
2116 Walnut St., Chicago 12, Ill.

Company has reprinted instructions and tables from the technical literature and offers them on request while the supply lasts under the title, "Calculating Corrected Tool Diameters." The information applies to form tools to use in multiple-spindle automatic screw machines. Tables occupy 56 pages in the 64-page letter-size publication.

If you write maker identify as IEN - 6162

DUST COLLECTING . . Design of exhaust hoods the subject of new 24-page bulletin based upon examples

American Air Filter Co.
123 Central Ave., Louisville 8, Ky.

John M. Kane, manager of the company's Dust Control Division, is author of a series of articles in the technical literature on which new Bulletin 270-E-1 is based. Title is "Manual of Exhaust Hood Design." Information covers hoods for polishing and grinding, portable tool grinding, machining, and oil-mist control. Some 60 installation pictures are used.

If you write maker identify as IEN - 6163

EQUIPMENT . . Details on maintenance service for company's electric equipment summarized in booklet

Westinghouse Electric Corp.
511 Wood St., Dept. IEN, Room 1110, Pittsburgh 30, Pa.

Renewal parts, repair service plants, engineering and field service are the facilities stressed in new 24-page Booklet B-4793. Pictures show how parts are improved over original design, how repairs are made on a variety of electric equipment, how a motor exchange service works. The booklet you receive will name plant and service location for your area.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6164

If you write maker identify as IEN - 6165

WHY tie up BIG PLATING EQUIPMENT ——— on small jobs?

GET A **Udylite** HANDIPLATER

THE UDYLITE HANDIPLATER will handle small plating runs and troublesome "overflow" production *efficiently* and *economically*. Simply plug the HANDIPLATER into the nearest A-C outlet; make the low voltage D-C plating connection, pour in some plating solution from a regular tank or barrel, and the HANDIPLATER is ready! You get high-quality finish, efficiently, at low cost.

SPECIFICATIONS: Kerosenal lined, ribbed plating tub, half pack capacity, can be used for other acid or alkaline plating solution. Size: 16½" top dia., 13" bottom dia., 14" depth. Ball anode basket is standard equipment. Special anodes for acid solutions also available. Motor: ⅓ HP single phase, 110 volt A-C V belt drive, with special speed reducer. Base: Pressed Steel, 14" x 24". Shipping weight: 200 lbs. (Shipping point is Detroit, Michigan.)

THE **Udylite** CORPORATION
DETROIT 11, MICHIGAN

If you write maker identify as IEN - 6166

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U.S.A.

Write for KIPP Air Tool Catalog AT 3006

If you write maker identify as IEN - 6167

CONTROL dust with DUCON CYCLONE COLLECTORS

DUCON HIGH EFFICIENCY COLLECTORS are widely used in all industries. Recover dust to reclaim valuable by-products or control dust to prevent air pollution.

Cyclone type separators built with non-turbulent gas inlets to insure a smooth flow, without destructive eddy currents.

Only DUCON Cyclone is equipped with inlet control and vortex shield for highest performance efficiency.

Custom-built, single or multiple units, with proper balance of shape, size and vortex shield in relation to air velocity.

Expertly engineered, scientifically designed; simple, sturdy construction for continuous, heavy duty service. Let a DUCON engineer help you solve your dust problem.

Write for Catalog DC49-1

The DUCON Co.
MINEOLA, N. Y.

If you write maker identify as IEN-6168

"H... ON WHEELS"!

LATEST DICO'S Free CATALOG EDITION

. . . Sure Speedy HELP On Your WHEEL PROBLEMS

The latest edition of the DICO Company's WHEEL CATALOG HELPS you by answering your high speed and low speed wheel engineering problems . . . with simplified information and specifications on your needs of dependable, highest quality DICO Wheels. Be Sure YOU Get This "HELP ON WHEELS"!

A modern line of industrial wheels 6"-22" rubber diameter.

DICO COMPANY Write TODAY! 202 S.W. 16th ST., DES MOINES, IOWA

If you write maker identify as IEN-6169

You get improved overload protection with Trumbull motor starters

Whether you prefer push button or toggle mechanisms on your manual motor starters, the one requirement you should always insist on is *sure* overload protection. You get *improved protection* with Trumbull motor starters because they give you:

- *fast action* on overload or stalled-rotor conditions
- *positive, quick-action tripping* without kickouts from vibration
- *easy resetting* with contacts that can't be closed against overload

A choice of heater units in fractional ampere steps to match heating curves of every motor. Up to 7½ horsepower. General purpose, watertight or explosion-proof enclosures. Special loom switch for textile applications. Write for circulars IEC 7 and 317A on Manual Starters.

TRUMBULL (T) ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONNECTICUT

If you write maker identify as IEN-6170

STEEN PIPE AND TUBE CUT-OFF MACHINES

For faster Cutting . . .

If you cut pipes and tubes . . . in small or large quantities . . . you can cut faster—easier—with a Steen Cut-Off Machine. Available in hand and automatic air-operated models for pipes and tubes up to 12" diam. *Also, Manufacturers of Cut-Off Wheels . . . Chaser and Wheel Grinders.*

Request Circulars Today

Continental MACHINE CO.
SINCE 1919
1952 N. MAUD AVE. • CHICAGO 14, ILL.

USEFUL INFORMATION
(Continued)

If you write maker identify as IEN-6171

FLOORS . . What makes them non-slip is described in new booklet on colloidal silica for waxes

E. I. du Pont de Nemours & Co.
2504 du Pont Bldg., Wilmington 98, Del.

"Anti-Slip Floor Waxes," new 12-page booklet, uses drawings and electron micrographs to demonstrate the action of the company's "Ludox" colloidal silica in making a floor wax non-slip. It also shows how these pictures were made. Importance of non-slip finish is outlined for water-emulsion waxes.

If you write maker identify as IEN-6172

FOUNDRIES . . How to mechanize operations by automatic handling equipment described in new booklet

Link-Belt Co.
305-9 N. Michigan Ave., Chicago 1, Ill.

Booklet 2439, 36 pages, reproduces 30 advertisements to show how foundry operations can be mechanized. Application examples, layout drawings, installation pictures are given over the range from sand conditioning through molding to shakeout. You may be interested to see what can be done.

If you write maker identify as IEN-6173

GAGES . . Movie on the optical comparator describes its use from comparison to precision measurement

Jones & Lamson Machine Co.
12 Bennett St., Dept. 710-M, Springfield, Vt.

"What's the Difference?" titles new 16-mm. color sound film on the company's optical comparators. It shows actual moving shadow images on the comparator screen as they are brought into view for dimensional comparison of production parts with a standard or for precision measurement. It also shows typical production-line scenes. Running time is 21 minutes. The film is available on loan for group showing.

If you write maker identify as IEN-6174

GRINDING . . Suggestions on wheel selection in house publication article on infeed centerless grinding

Norton Co.
36 New Bond St., Worcester 6, Mass.

Major article in Vol. 43, No. 4 on the company's publication, "Grits and Grinds," describes wheel selection for infeed centerless grinding. It covers plain infeed grinding, form grinding, out-of-balance work, multiple-diameter work, concentric ground work. There is a list of common troubles and remedies. You can request a copy of this issue or addition of your name to the mailing list.

If you write maker identify as IEN-6175

HEATING . . Maintenance suggestions on steam and hot-water unit heaters in new data sheet

Industrial Unit Heater Association
2159-A Guardian Bldg., Detroit 26, Mich.

Installation essentials and maintenance suggestions are presented by drawings and condensed text in new 4-page Bulletin 12. They cover steam and hot-water unit heaters, show points to check, methods of cleaning, prevention of internal corrosion. The bulletin is on heavy paper punched for a loose-leaf binder.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6176

NEW MOGUL SOLDERING AND BRAZING GUN

This new MOGUL unit is built to deposit lead and tin base solders, silver solder and brazing wires in a liquid or semi-liquid form to any constant moving part.

High or Low Speed. Moving part travels at desired speed, as Gun adjusts to your specific application.

Pinpoint Location. Deposits solder or brazing wire to exact spot for clean seam . . . material saving.

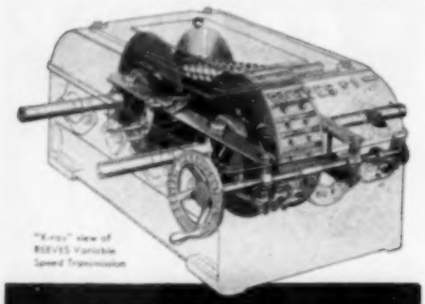
Extremely Versatile. Use Gun for constant or intermittent work of any type, regardless of shape, joints, connections, terminals or seams. Seam soldering speeds up to as much as 200 lineal ft. per min.

Saves Time • Saves Solder

Recent installation of a Mogul Gun afforded a reduction of 75% in labor costs plus appreciable solder savings. Perhaps Mogul can do the same for you. Write today for full information.

METALLIZING COMPANY OF AMERICA
Dept. IEN, 3520 West Carroll Ave., Chicago 24, Ill.

If you write maker identify as IEN-6177



"X-ray" view of REEVES Variable Speed Transmission

REEVES Variable Speed Transmission

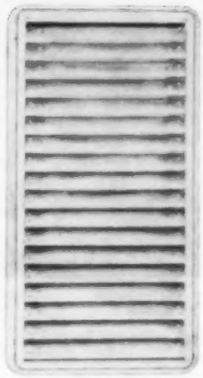
Provides positive, accurate speed changes—without stopping machine—to meet the requirements of every operation and operator, under every changing condition. Easily applied to machines in service—requires no special tools or training to maintain. Horizontal and vertical designs, open or enclosed—in sizes fractional to 87 hp; speed ratios 2:1 through 16:1; manual or automatic controls. Internal operating parts also available for easy incorporation within the framework of your machines. Get full details on the complete REEVES line. Write for free Catalog IN 71a-G.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

If you write maker identify as IEN-6178

SHUTTERS

AUTOMATIC AND MANUAL FOR ENGINE TEMPERATURE CONTROL



Constructed entirely of aluminum alloy. These shutters are light, strong, durable and very accurate. Vanes are mounted in 5/16" bronze bearings and sealed with neoprene moulding inserted in the edge of each vane for tight closing.

Modulated thermostatic controls maintain engine temperature at any desired degree.

Shutters are engineered for each installation and can be furnished in any size. Also available for air cooled engines.

THE CADILLAC COMPANY, Inc.
Race and Jay Streets
COLDWATER, MICHIGAN
APPROVED FOR GOVERNMENT USE

If you write maker identify as IEN-6179

CLEAN CUT WIDE SHEARING *to .005 inch!*

with FRIED *Liftveyor**

*Patent Pending

The answer to flexing—*regardless of material*—in close tolerance shearing of lighter-gauge materials when shearing to the back-gauge.

The Fried Liftveyor supports wide sheets for close-tolerance shearing...then moves them without marring to safety beyond shear frame.

OPERATION: Ball point plungers that support sheets are pneumatically actuated by foot treadle synchronized with your shear. Sheared strip lowers to conveyor . . . and plungers return for next support assignment!

Liftveyor now may be ordered with air-operated strip-eliminator.

INVESTIGATE! Write for Bulletin giving complete facts & figures on entire line of Fried Strip-Handling Equipment.

FRIED STEEL EQUIPMENT MFG. CORP.
526 EAST 138TH ST. NEW YORK 51, N. Y.

If you write maker identify as IEN-6180

Adjustable Nose Pads of **AO FX9200 GOGGLE** Make it Easy to Fit the Hard to Fit

With the new AO FX9200 goggle, the hard-to-fit worker can enjoy the safety, unobstructed vision and lightweight comfort which the AO FX9200 series goggle provides. Non-corrosive nose pads of thin cellulose acetate adjust for perfect fit easily...and remove for quick replacement just as easily. "Rocking" nose pad construction distributes goggle weight broadly for pressure-free comfort. The FX9200 is particularly recommended with prescription Super Armorplate lenses, with or without side shields. Your nearest AO Safety Products Representative can supply you.

American Optical
SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASS. • BRANCHES IN PRINCIPAL CITIES

If you write maker identify as IEN-6181

Why you should specify

G-E SILICONE RUBBER PARTS

for extra-high-temperature seals

When designs call for sealing rings and gaskets subject to unusual extremes of temperature, specify General Electric silicone rubber parts! They're ideal for high-heat sealing applications because they are able to withstand long exposure to 450 F without deteriorating or becoming tacky. G-E silicone rubber parts have low-compression set even under high heat, possess excellent dielectric and insulating properties.

Jet engines, for example, have many uses for G-E silicone rubber parts: oil seals, fire-wall seals and ignition cable shields. Why not investigate the remarkable properties of General Electric silicone rubber parts for *your* designs?

General Electric's complete fabricating service also offers you:

G-E mycalex parts—with a unique combination of properties, including high dielectric strength, dimensional stability and heat resistance up to 700 F.

G-E sealing caps and sleeves—to protect tubing and small parts from air, moisture, dirt, paint and chemicals . . . to insulate wires . . . and protect valves from mishandling.

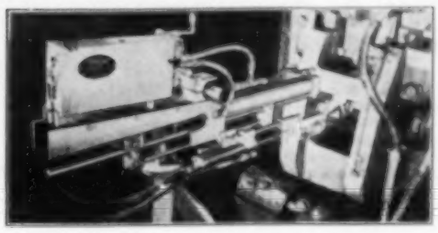
For more information, write to General Electric Company, Section 111-7D, Chemical Division, Pittsfield, Mass.

GENERAL ELECTRIC

If you write maker identify as IEN-6183

PRESS TOOLS . . Pneumatic unloader removes completed work from a press

Source: SAHLIN ENGINEERING CO.
265-69 Ferndale St., Birmingham, Mich.



Assists press operator

Slide action replaces the previously developed swinging-arm assemblies in the company's line of press-unloading equipment in this new portable unloader for small and medium presses. The unloader employs the same air-operated jaw, pneumatic cylinder and electric controls as those on the larger Iron Hand, previously described IEN-5563-51. It can be adjusted vertically to reach various die levels and can be set at a required angle. Jaw travel is in a straight line. A locking device holds in set position at the rear of a press after a set-up has been made.

Operation is tied in with the movements of the press so the pick-up jaw moves into the die to grip the work the instant the ram rises sufficiently to clear it. The jaw then lifts the stamping and moves back from the press to drop the completed unit in a tote box or onto a conveyor. It finally returns to its original position to await the next cycle. Gripping jaws of various designs are available to suit given work requirements. The company is prepared to make recommendations.

If you write maker identify as IEN-6184

TESTING . . Radioactive cell actuates gamma radiation recorder

Source: OHMART CORP.
2353 Ferguson Road, Cincinnati 38, Ohio

Generates current

New assembly of the company's radioactive cell, known as Model RT, is available to continuously monitor ambient radiation and check continuous processes for gamma-ray activity. It also can be employed in preparation of radioactive medical dosages by means of its centrally-located sample well where these dosages can be prepared.

When connected to the recorder, a permanent record of dosage is made to show the number of individual doses prepared and records the mounted of activity in each one. When employed with a recording or an indicating instrument, signal contacts can be included to sound alarms or to actuate controls.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

If you write maker identify as IEN-6185

Worth a Second Look

Since '26 JOY electrical plugs and receptacles have been Industry's outstanding value for portable power transmission. Molded as trim, one-piece (Neoprene/rubber) units they can't crack or shatter . . . won't lose their shape and are amazingly resistant to falls, blows, acids, oils, moisture or sunlight. Thousands of styles and shapes ranging from "cartridge-size" models to mammoth round (S.P.B.) units used in marine and mining applications have been developed. NO question about it . . . the JOY electrical connector line deserves a "second look". Ask for your free copy of Bulletin MC108

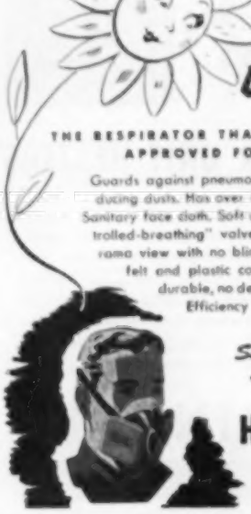
ILLUSTRATION SHOWS JOY ROUND STYLE PORTABLE PLUGS

OVER 100 YEARS ENGINEERING LEADERSHIP

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA

If you write maker identify as IEN-6186

Be fresh Stay fresh



wear a **DUPOR No. 40**

THE RESPIRATOR THAT IS U. S. B. of M. APPROVED FOR TYPE "A" DUSTS

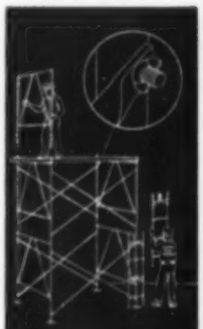
Guards against pneumoconiosis and silicosis producing dusts. Has over 40 sq. in. twin filter area. Sanitary face cloth. Soft rubber face mask. "Controlled-breathing" valves. Wearer has a panorama view with no blind spots. Unusual rubber, felt and plastic construction makes it extra durable, no denting or bending possible. Efficiency remains unimpaired even after rough treatment.

Sample sent $3.00 pp

H. S. COVER
South Bend, Ind.

If you write maker identify as IEN-6187

but



SAFWAY
SCAFFOLDING
has 'em all

SAFWAY WING NUT FASTENING IS
√ Simple! √ Positive!
√ Fast! √ Safe!
√ Trouble-Free!

SAFWAY—the original tubular steel scaffolding—is still the fastest, safest and most practical product available. Safway's engineered design and exclusive construction features mean higher profits for contractors. Learn how you can do better work—faster—on jobs of all sizes...

Write for Free Bulletin IEN-652

RENTED and SOLD by distributors everywhere

SAFWAY STEEL PRODUCTS INCORPORATED
6236 West State St.
MILWAUKEE 13, WIS.
Manufacturers of Tubular Steel Scaffolding and Equipment

If you write maker identify as IEN-6189

"HET UP" about YOUR wasteful heating SET UP? change to

THERMOLIER UNIT HEATERS

Thermoliers provide quick heating from a cold start. Desired room temperatures are easily maintained within a close range. Moreover, heat is forced down to the working level . . . not banked uselessly at the ceiling. The units and the simple piping are overhead where they do not interfere with arrangement of the operating machinery or equipment. Write for Thermolier Catalog.

GRINNELL
THERMOLIER UNIT HEATERS
Grinnell Company, Inc., Providence, R. I.
Coast-to-coast Network of Branch Warehouses and Distributors

If you write maker identify as IEN-6190

• at all times • under all conditions
• throughout its long lifetime of service

This Homestead Valve will always work
it's stickproof because it's lever-seald

HOMESTEAD LEVER-SEALD PLUG VALVES
HOMESTEAD VALVE MANUFACTURING COMPANY

If you write maker identify as IEN-6191

MAINTENANCE COSTS CUT 25% WITH SLO-SPEED

Because of previous successful experience with Sterling Electric Power Drives we selected Slo-Speeds to drive our feed mixers and conveyors, reports Carl Gill of Thompson & Gill, Inc., Modena, Calif., manufacturer of cattle ranch and feed yard equipment. With this Slo-Speed driven equipment users save 8% in labor costs, reduce maintenance 25%, and improve uniformity of feed mixes.

STERLING SLO-SPEED GIVES YOU THE ONE BEST LOW SPEED AND gives uninterrupted service — carries heavy overhung loads — provides versatile mounting and flexibility in arrangement of machinery — saves valuable space — provides greater safety — costs less to install and use. An indispensable source of low speed power for:

Agitators	Dryers	Presses
Blenders	Feeders	Pumps
Blowers	Kilns	Screens
Conveyors	Mills	Tumblers
Cookers	Mixers	Etc., etc.

70 ILLUSTRATIONS showing how Sterling Electric Power Drives reduce production costs. Write for Bulletin No. C-127.

STERLING ELECTRIC MOTORS

Plants: New York City 51, Van Wert, Ohio, Los Angeles 22, Hamilton, Canada, Santiago, Chile. • Offices and distributors in all principal cities.

USEFUL INFORMATION
(Continued)

If you write maker identify as IEN-6192

INSULATING . . Where-to-buy information on company's silicone-base electrical insulation

Dow Corning Corp.
P. O. Box 592-A, Midland, Mich.

"Silicone Notes" titles series of data sheets issued at intervals to keep you up to date on developments in silicone-base electrical insulating materials. The sheets describe specific products made from these materials with a list of manufacturers from whom you can obtain them. Your name will be added to the mailing list upon request.

If you write maker identify as IEN-6193

LUBRICATING . . Booklet recommends grades of lubricant to use by type of industry and type of service

Fiske Brothers Refining Co.
127-31 Lockwood St., Newark 5, N. J.

"Lubriplate Data Book," revised 56-page 1952 edition, presents a set of specific recommendations on which lubricant to use and where for 29 industries from air conditioning to water plants. It also gives data on oil and grease lubricants, application notes, and a list of dealers and distributors.

If you write maker identify as IEN-6194

MACHINING . . Sequence drawings in catalog shows operations performed by 28 special machine tools

Buhr Machine Tool Co.
815 Green St., Ann Arbor, Mich.

One page each is given to 28 special production machines in new 48-page catalog, "Special Machinery," available on letterhead request by qualified individuals. Each page describes the part, production rate, type of equipment, tooling, and shows a set of sequence drawings on the operations performed. The machines combine such operations as multiple drilling, spotfacing, reaming, tapping, boring, end milling.

If you write maker identify as IEN-6195

MANAGEMENT . . Sell, not just announce, your employee pension plan is urged by new booklet

Employee Benefit Plan Review
164-68 W. Jackson Blvd., Chicago 4, Ill.

Sell the advantages of an employee pension plan is suggested at the start of new 16-page "How to Explain Your Pension Plan to Employees." The booklet describes main points to cover such as introductions, types of benefits, eligibility, cost. It is illustrated with current examples.

If you write maker identify as IEN-6196

MANAGEMENT . . Booklet on the steel dispute summarizes the companies' story on their side of the case

Steel Companies in the Wage Case
5401-A Empire State Bldg., New York 1, N. Y.

Profit per ton of steel after taxes, profit earned on sales of steel compared to those of 16 other industries, wages of steel workers in comparison to other industrial workers, are typical information points summarized in new 12-page booklet, "These Are the Facts in the Steel Controversy." A copy will be sent you on request to the address above.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 53

If you write maker identify as IEN-6197

MOBILIFT

Lev-R-Matic DRIVE
FORK LIFT TRUCKS

• STAND-UP AND SIT-DOWN MODELS
• GAS OPERATED—NO GEARS TO SHIFT
• A SIZE TO FIT YOUR NEEDS

2,000, 2,500, 3,000, 3,500 lb. capacity Stand-Up Models.
2,000, 3,000 capacity Sit-Down Models.
63", 72", 83" Masts.
Special Masts to your order.

Write for complete specifications or contact your nearest Branch Office.

MOBILIFT Lev-R-Matic DRIVE
MOBILIFT CORPORATION
835 S. E Main St., Portland 14, Oregon
2317 W. 18th, CHICAGO • 790 Patterson Ave., E. RUTHERFORD, N. J.
2724 Taylor St. DALLAS • 113 Spring St. N. W., ATLANTA
2730 San Pablo Ave., BERKELEY

If you write maker identify as IEN-6198

How to install machinery

Faster! Easier! At lower cost!

ISOMODE PADS permit you to install most machines without bolting, floor damage or costly, heavy bases. Placed under legs of equipment, they absorb impact-shocks and as much as 70% of the vibration. They thereby keep machines in place even without cementing — reduce noise — cut down both building and machine maintenance.

ISOMODE PADS, engineered from Du Pont "Neoprene," last for years. They permit you to locate or relocate machines anywhere, and on all types of flooring. Thousands of effective, money-saving installations have already been made — from bench equipment to high capacity punch presses. Why not try an installation to see the remarkable results first hand? Bulletin 415 gives more data — write today.

THE MB MANUFACTURING COMPANY, Inc.
1064 State St., New Haven 11, Conn.

If you write maker identify as IEN-6199

For fast, uniform case hardening at low cost

Investigate Du Pont Molten Salt Baths

PLAIN CYANIDE

For light cases to 0.010"—At temperatures of 1400° to 1600°F., cyanide baths supply nitrogen as well as carbon to steel surfaces—greatly improving wear resistance. Distortion is held to a minimum. Bath is easily maintained by addition of Du Pont replenishing salts.

ACCELERATED SALT WS*

For medium cases to 0.040"—Salt has excellent carburizing activity from 1500° to 1650°F. High fluidity of bath and high cyanide concentration eliminate bail out under normal conditions. Salts composing bath and decomposition products *are completely water soluble.* *Water Soluble

CARBURIZING SALT

For deep cases in excess of 0.025"—Predominantly carbon cases are quickly and economically obtained at 1650° to 1750°F. Low cyanide concentration holds cyanide decomposition to a minimum—even at high temperatures. Case depth is controlled and uniformity assured by fast, even heating.

Technical assistance *and advice in the selection of heat treating materials can be obtained by writing or calling our nearest district office. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.*

DISTRICT OFFICES:
Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
El Monte (California) • New York • Philadelphia

DU PONT
CYANIDES AND SALTS FOR STEEL TREATING
DU PONT
150th Anniversary
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

If you write maker identify as IEN-6201

REED ENGINEERING COMPANY

1009 W. Fairview Carthage, Mo.

REED PORTABLE TURNING ROLLS

- IN 5 MODELS, CAPACITIES UP TO 75 TONS
- FOR HAND OR AUTOMATIC WELDING, FINISHING OPERATIONS ON TANKS UP TO 14 FT. DIAMETER
- REVERSIBLE, VARIABLE SPEED ADJUSTMENT
- RUGGED, ALL-STEEL CONSTRUCTION
- BUILT-IN, SILENT WORM GEAR DRIVE

WRITE FOR BULLETIN 61

MODERN METALWORKING MACHINES
BENDING ROLLS • WELDING FIXTURES
FORMING MACHINES • TURNING ROLLS
SPECIAL MACHINES & FIXTURES

If you write maker identify as IEN-6202

FOR MATERIAL HANDLING—
more and more—the swing is to wide-base pneumatic tires

GENERAL
INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics. They know Generals add these extra selling points to handling equipment.

SAVE TIME • MONEY • LABOR

- MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS
- CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE
- SAVE HIGH COST FLOORS AND FLOOR SURFACES
- SLOW, EVEN WEAR FOR LONG SERVICE
- HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND
- ROLLS EASIER, SMOOTHER OVER ALL SURFACES

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

Rigid CASTER FORKS Swivel

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

SEND FOR CATALOG . . . DEPT. G

THE GENERAL TIRE & RUBBER CO. AKRON, O.

If you write maker identify as IEN-6204

WOOD WORKING . . Portable saw, universal motor, takes 6⅜-in. blade

Source: CUMMINS-CHICAGO CORP.
4738-48 N. Ravenswood Ave., Chicago 40, Ill.

List is about $70

The company announces take-over of manufacture and sale of the Maxaw circular-blade saw, previously described IEN-0037-49. The tool initially developed by Fred Wappat weighs 10 lb., has straight cut capacity to 2⅛ inch. It will cut 1⅞ in. when set at 45 degrees. A feature in the construction is the position of the pivot point, low and close to the blade center.

Drive is by a universal motor operating on 110-volt input in standard construction or on 220 volts to specification. No-load speed is 5,500 rpm. Overall length is about 11 inches. Control centers at a double-pole momentary-contact switch equipped with a lock button.

If you write maker identify as IEN-6205

GLASS . . Flat drawn, green tinted absorbs heat and minimizes glare

Source: PITTSBURGH PLATE GLASS CO.
634 Duquesne Way, Pittsburgh 22, Pa.

Eye comfort is promoted

Pennvernon trade names a new flat-drawn sheet glass, companion material to the company's Solex plate glass, previously described IEN-4541-52. The new sheet possesses about the same heat and glare-minimizing properties as ¼-in. Solex plate. It is made in one 7/32-in. thickness and is available in cut sizes not to exceed 15 square feet.

The glass absorbs most of the solar infrared and ultraviolet rays. It transmit 72 to 74 per cent of daylight. A room glazed with the material will be 10 to 20-deg. F. cooler than a duplicate room with windows of ordinary glass. Perishables stored back of the glass are retarded in tendency toward deterioration because of the heat-absorbing qualities. Fabrics are protected against fading or bleaching.

If you write maker identify as IEN-6206

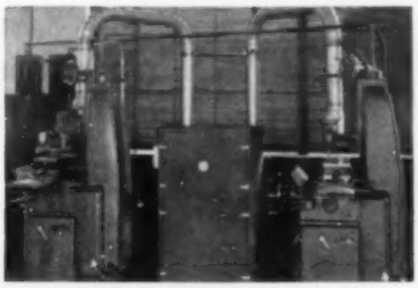
BEARINGS . . Flanged bushing supports shaft and seal in vacuum pump

Source: BRONZE BEARINGS INC.
338-42 North Ave. E., Cranford, N. J.

The bushing shown in the illustration is a recent example of parts the company is prepared to cast and machine in specified materials on quantity order. The unit shown is made of a lead-tin-bronze alloy. It is cast and machined ready for assembly by a vacuum pump manufacturer.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6207



TORIT DUST COLLECTOR
the 2 to 1 Favorite for Every Job

SELF-CONTAINED

Torit Dust Collectors are self-contained units for capturing and cleaning dust-laden air from grinding, polishing and other dust-creating machines. Available in many sizes and models.

The only dust near these two surface grinders is neatly trapped inside that model No. 81 Torit Dust Collector.

Compact, efficient Torit Dust Collectors need no extensive piping, no outside exhaust. More than 20,000 now in use in every industry and for almost every dust problem. Write for latest Torit catalog.

TORIT
Manufacturing Co.
286 Walnut St., St. Paul 2, Minn.

If you write maker identify as IEN-6208

SPEED UP/ with HANSEN

—the TACKER it Pays to Use!

SAVES TIME! Wherever tacking and fastening are done—in assembly, production, shipping—Hansen speeds up operations, cuts costs and saves time. Balanced design—unique Take-up Jaw—for easier operation—quicker servicing.

STEPS! Hansen is self-contained, loaded, ready for instant, continual use. Holds scores of staples. Reloads quickly. Easily portable. Take it to the job! Hansen Vest-Kit saves back-tracking for refills.

MATERIALS! Accurate, precision driving—staples placed and driven exactly where you want them—no marring of surface—no wastage.

36 DIFFERENT MODELS
80 STAPLE SIZES

REQUEST BOOKLET

A.L.HANSEN MFG.CO.
5051 RAVENSWOOD AVE. CHICAGO 40 ILLINOIS

If you write maker identify as IEN-6209

NEED COPIES?

MODERN MIMEOGRAPHING—New equipment and supplies for the fast production of copies on a wide variety of paper and card stocks. A. B. Dick mimeograph products are for use with all makes of suitable stencil duplicating products.

MODERN OFFSET—A. B. Dick lithograph direct image plates and masters provide for (1) longer runs with sharp definition—(2) easier corrections—(3) more successful filing—(4) marked superiority in resistance to fingerprints.

MODERN SPIRIT DUPLICATING—A. B. Dick CLEEN-SEAL master sets and spirit carbons guard against stains and smudges. Available in a variety of sizes for long, medium and short runs. Five brilliant colors—purple, red, green, blue and black.

Write Dept. IEN652 for full information—or call the A. B. Dick Distributor listed in the classified section of the phone book.

A·B·DICK
A. B. Dick Company • 5700 Touhy Avenue • Chicago 31, Illinois

If you write maker identify as IEN-6210

CLEAN COOLANT CUTS REJECTS to 1/2%

. . . . production up 15 to 20%

Rejects—averaging 25% with unfiltered coolant—were reduced to less than ½% when Bowser filtered. Our nearest sales engineer will welcome an opportunity to discuss your coolant filtration problems. May we have him call?

There's a Bowser cutting oil or coolant filter for any metalworking requirement.

BOWSER, INC.
BOWSER 1338 Creighton Ave., Fort Wayne 2, Ind.
Liquid Handling Specialists Since 1885

If you write maker identify as IEN - 6211

THE Old Faithful OF STEAM PRESSURE REDUCTION

FISHER TYPE 92A
PILOT OPERATED CONTROL VALVE

SINGLE SEATED TIGHT CLOSURE

Two interchangeable pilot assemblies available for high or low pressure service.

Power engineers everywhere have ok'd the FISHER TYPE 92A for steam pressure controll It's an accurate, compact, flexible, sturdy controller, designed, built and proved to meet the **most exacting requirements** for steam service.

WRITE FOR BULLETIN C-3

FISHER GOVERNOR CO.
MARSHALLTOWN, IOWA

If you write maker identify as IEN - 6212

Generalift
PALLET BOXES
1. CUT MATERIALS HANDLING COSTS
2. REDUCE STORAGE COSTS

SEND FOR FREE BOOKLET

General BOX COMPANY
GENERAL OFFICES:
1815 MINER STREET, DES PLAINES, ILL.
DISTRICT OFFICES AND PLANTS: Cincinnati, Danville, N. J., Detroit, East St. Louis, Kansas City, Louisville, General Box Company of Mississippi, Meridian, Miss., Milwaukee, Sheboygan, Winchendon. Continental Box Company, Inc.: Houston, Dallas.

If you write maker identify as IEN - 6213

COUNTERS for Every PURPOSE
LARGE or small

Avoid Labor and Error of Hand Counting

Counting Problems SOLVED

Tell us WHAT you want to count or send for CATALOG

MODERN COUNTING DEVICES
Stroke and Revolution Counters
End Winding Counters
Electric Counters
Automatic Batch Counters
Actuating Switches

Eliminate guesswork, waste and delay. PIC modern, dependable, long-wearing Counters effect wonderful economics—repay their cost over and over—in Auto and Aircraft factories, Metal Working, Die Casting, Plastic Molding and Stamping Plants; Steel and Paper Mills; Factories and Breweries; Can, Carton, Bottle Cap and Printing Plants. Types and sizes for every purpose.

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Send PIC Modern Counter Catalog with handy Counter Application Form.
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Street
City Zone State
MO-1

USEFUL INFORMATION
(Continued)

If you write maker identify as IEN - 6214

MANAGEMENT . . Give-and-take attitude as basis for labor-management understanding in movie form

Twentieth Century Fund Inc.
330 W. 42nd St., New York 18, N. Y.

Actual example of how labor and management of an American industry have progressed toward mutual understanding is described by new 16-mm. sound film, "Working Together." Showing time is 25 minutes. You may be interested to see the increase in production resulting from adoption of the union's suggestion at the settlement of an 8-week strike. A print of the film is available for rental or purchase.

If you write maker identify as IEN - 6215

METAL TREATING . . Production is described for black oxide finish on steel parts in technical reprint

Mitchell-Bradford Chemical Co.
2444-48 Main St., Stratford, Conn.

A. J. Mitchell, company's president, is author of a recent article in the technical literature now offered as a 4-page reprint. It describes the aqueous alkali-nitrate dip method of producing a black oxide finish on steel parts. It covers equipment and procedures, the blackening solution, characteristics of the finish, other blackening methods.

If you write maker identify as IEN - 6216

MOTORS . . Selection and use of fractional-hp. motors is described by new slidefilm

General Electric Co.
Dept. 6X-201, Schenectady 5, N. Y.

Tenth of a series in the company's Motor Selection Course is new 35-mm. sound slidefilm, "Selection and Application of Fractional Horsepower Motors." Running time is 21 minutes. The film uses photographs, charts, graphs and cartoons to describe uses of these motors, five basic types, five steps in selecting and applying them. It is available to show or buy.

If you write maker identify as IEN - 6217

PIPE FITTINGS . . How to make them for plastic pipe described in instruction booklet

Tennessee Eastman Corp.
10 E. 40th St., Room 4010, New York 16, N. Y.

Slip, sleeve, bell, sawed-and-cemented, flanged joints in Tenite plastic pipe are illustrated and assembly instructions given in new 16-page booklet. Title is "Fittings for Pipe Extruded from Tenite." These fittings are made from extruded pipe lengths. Metal compression fittings are shown.

If you write maker identify as IEN - 6218

PLATING . . Step by step analysis of plating machine operating cycle shown in new movie

Frederic B. Stevens Inc.
18078-02 18th St., Detroit 16, Mich.

Processing features and material-handling applications are shown in new 20-min. sound film for the company's automatic barrel plating machine. Analysis of the operating cycle is made by actual demonstration. The company will be happy to arrange a showing to interested groups.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN - 6219

Junk these cumbersome contraptions

GO MODERN GO VARIDRIVE

INFINITE SPEEDS from this single motor
•
2 to 10,000 rpm
•
¼ to 50 hp.
•
Quiet, shockless
•
REQUEST BULLETIN

You simply turn a control handle. Instantly the speed of the Varidrive changes to the exact rpm you want. You don't have to resort to the use of external speed changers, gear boxes, rheostats, controllers and other contraptions.

U.S. VARIDRIVE MOTOR

U.S. ELECTRICAL MOTORS Inc.
P. O. Box 2058, Los Angeles 54, Calif. Milford, Conn.

If you write maker identify as IEN - 6220

Consult Hertner for battery charging equipment for driver ride trucks or motorized hand trucks

"KX" Charg-O-Matic Line

Single or multiple circuit models are available for charging driver-ride electric trucks. The single standardized circuit line is available in 13 models for charging lead acid batteries and 7 models for charging Edison batteries. For central station charging the unitized switchboard is provided in sections with a motor generator set for charging two or more batteries simultaneously.

"HX" Chargo-O-Matic Line

Single or four circuit models are available for charging motorized hand truck batteries — a series for lead-acid batteries and a series for Edison batteries.

Double Duty Charge Control

An accessory for automatically charging two batteries from either an "HX" or "KX" single circuit battery charger.

Special-built Battery Chargers

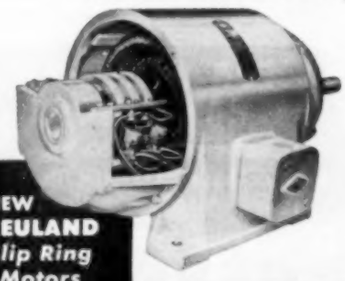
Where battery charging equipment is needed to do a special job, Hertner engineers and modern plant facilities are available to produce a charger to fit any requirement.

Standard Models for immediate shipment. For complete information consult your electric truck or Hertner representative, or write direct.

THE HERTNER ELECTRIC CO.
12690 Elmwood Avenue • Cleveland 11, Ohio
A General Precision Equipment Corporation Subsidiary

Motors • Motor-Generators • Generator Sets • Representatives in Principal Cities

If you write maker identify as IEN - 6221



NEW REULAND Slip Ring Motors

FEATURE SHORTER OVERALL LENGTH VERSATILE, FLAT END BELLS

Reuland Slip Ring Motors provide both (1) variable speed and (2) high starting torque on low starting current. Ideal for crushers, cranes, fans, etc.

FLAT END BELLS permit easy, direct-mounting of equipment on either end.

SHORTER LENGTH assures simpler mounting in tight spaces. (Same dimensions as a squirrel cage motor.) Greater shaft rigidity is obtained through shorter bearing-to-bearing spacing.

WITH GEAR REDUCERS Reuland Slip Ring Motoreducers provide maximum versatility.

AVAILABLE in drip-proof or totally enclosed designs. Wide range of ratings.

Write for engineering folder covering the complete Reuland Line—No. RE-1000-6
Inquiries invited on special motors designed to order.

REULAND ELECTRIC CO.
ALHAMBRA, CALIFORNIA • DISTRIBUTORS IN PRINCIPAL CITIES

If you write maker identify as IEN - 6222

Now...Spring Makers and Spring Users alike have a Uniform Method for Testing Springs!

THE TORRINGTON SPRING TESTER

Uses: for accurate inspection, in-use testing, designing springs for specific uses, and as a basis for statistical quality control.

Simple: can be used at operating levels by relatively inexperienced personnel. Portable!

Accurate: 2 models—the 5 pound model measures loads to the nearest 1/100 ounce, and the 16 pound model to the nearest 1/5 ounce; lengths and deflections to 1/1000 inch.

Fast: requires minimum time to adjust for accurate readings, or to reset for other springs.

Practical: measures under conditions approximating actual use, through interchangeable fittings.

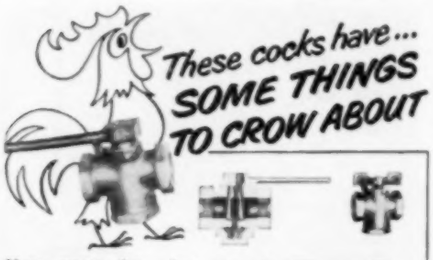
High sensitivity: over a wide range, on both tension and compression types of springs.

For complete information please write:

TORRINGTON MANUFACTURING COMPANY
TORRINGTON CONNECTICUT

WORLD'S LARGEST BUILDERS OF SPRINGMAKING MACHINERY

If you write maker identify as IEN-6223



Users report three—four—even five times the service life from Westinghouse Savair Cocks. Bothersome leaks and expensive down-time losses are eliminated.

SAVAIR® COCKS are . . .

1. Designed for long life.
2. Manufactured from high quality metals.
3. Rugged in construction.
4. Proved in long years of service.
5. Economical in over-all cost.
6. ¼" to 2", with or without side vent to vent the discharge side when cock is closed.

To get these savings in your plant—make Savair Cocks a standard specification. Catalog on request.

WESTINGHOUSE
AIR BRAKE COMPANY
WILMERDING, PENNA.
INDUSTRIAL PRODUCTS DIVISION

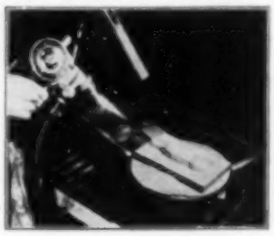
Factory Branch: Emeryville, Calif. Distributors throughout the United States. . . Consult your Classified Directory. Distributed in Canada by: Canadian Westinghouse Co., Ltd., Hamilton, Ontario.

If you write maker identify as IEN-6224

If you write maker identify as IEN-6226

METAL SPRAYING . . Alloy wire and equipment make low pressure molds

Source: METALLIZING ENGINEERING CO.
38-16 - 30th St., Long Island City 1, N. Y.



Examples in Bulletin 99

Spramold Wire is a new metal alloy characterized by its low melting point which permits it to be sprayed over the surfaces of a master pattern made of metal, cloth, glass, plastic, wood, wax. The sprayed material forms a coating that faithfully duplicates the surface contours of the pattern to reproduce it in minute detail. Complete equipment includes the company's Type-5E metallizing gun and a water-wash spray booth which the company also is prepared to supply. Materials, in addition to the Spramold Wire, include a supply of Sprabronze-AA an aluminum-bronze alloy wire.

A typical mold, employing plaster, is prepared, oven dried, sanded with No. 00 paper, shellacked and sprayed with several coats of lacquer and polished with a high-melting-point wax to provide free separation between the master and the sprayed alloy. The master is suitably mounted and then a layer of the Spramold Wire is applied to a thickness of 0.04 inch. This is followed by a layer of Sprabronze to a thickness of 0.03 in. and finally a second layer of the Spramold Wire 0.04 in. in thickness.

Spraying time is about ½ hr. for the bottle mold shown in the illustration. The finished mold is not suited for high-pressure molding but can be employed in vacuum and slush-molding processes. Very little heat is carried by the sprayed metal to the mold surface but, to assure cool operation, an auxiliary jet of air is directed at the work through a nozzle mounted with the spray gun.

If you write maker identify as IEN-6227

DUST COLLECTING . . Filter unit removes dust from air at a machine

Source: AGET-DETROIT CO.
401 Main St., Ann Arbor, Mich.

Stops dust, lint, chips

Rating is 525 cfm. with static suction at 2 in. of water for this new Model-520 unit in the company's Dustkop line. It is available with single or double inlet connection. Its blower is driven by a ¼-hp. motor for operation on 110, 220 or 440-volt ac. as specified.

The assembly includes a built-in cyclone separator to remove the larger particles of dust so they will be precipitated into a storage compartment in the base of the housing. The balance of the dust is removed from the air stream by a renewable spun-glass filter panel mounted in the housing top. A single inlet measures 4 or 5 in. in diameter. A double inlet has two 3-in. connections. Overall dimensions are 23 by 18 by 25 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN-6228

If you write maker identify as IEN-6229

Noise Reduced 50%*

inside a
BURGESS-MANNING
Acousti-Booth

- Hushed interior . . . a quiet restful place to hear well.
- Light, sturdy construction for ease of moving.
- Doorless construction...light, airy, well ventilated...easy to keep clean.
- Simple construction . . . no moving parts—therefore, easy to maintain.
- Modern in appearance. Suited to any location.

Model 602 Wall Booth

Model 211 Floor Booth

* Based on studies by a prominent research organization.

Write for Bulletin A-107
BURGESS-MANNING COMPANY
Architectural Products Division
5970-A Northwest Highway, Chicago 31, Illinois

If you write maker identify as IEN-6230

BLACKMER HAND PUMPS
designed for Liquid Materials Handling
IN YOUR PLANT

Speed liquid materials handling. Eliminate spillage. Promote safety. Cut costs. Blackmer builds the only complete line for industrial use.

MOUNT ON DRUMS, WALLS, MACHINES, WHEEL TANKS, SKID TANKS, UNDERGROUND STORAGE OR ON PIPELINES.

7 to 28 G.P.M.

For lube oils, solvents, paints, thinners, fuel oils, gasoline, cutting oils, soaps, and other liquids.

GET HAND PUMP DETAILS
Write for catalog folder "HP6" and price list.

BLACKMER PUMP COMPANY
1809 Century Ave., S.W. . Grand Rapids, Mich.

If you write maker identify as IEN-6231

If you write maker identify as IEN - 6232

MARSH INSTRUMENT CO.
Sales affiliate of Jas. P. Marsh Corp., DEPT. A, SKOKIE, ILL.
Export Dept., 155 East 44th Street, New York, New York

If you write maker identify as IEN - 6233

Their Good Looks Help Sell Your Original Equipment!

PIC STEEL UNIONS

You get eye-catching brightness as well as strength with a Pic — the 150 lb. steel union that's tailor-made for makers of original equipment. Ends are uniformly flat-sided for speedy installing with open end wrenches and the steel pipe coupling stock can take the most punishing wrenching. Special wedge-type bronze seat locks the union tight. Complete zinc plating (even on threads) says "no!" to rust. The cost? *Less* than a galvanized, *no more* than a black malleable union.

Write for Free Samples!
DART UNION COMPANY
130 Thorbers Avenue,
Providence 5, R. I.

If you write maker identify as IEN - 6234

WORKING SHEET OR PLATE STEEL?
LOOK at what PULLMAX CAN DO

STRAIGHT CUTTING — Straight cutting, circle cutting, free hand cutting, slot cutting, beading, folding, louvering and many variations of these operations . . . All ON ONE PULLMAX MACHINE! Easy to set up and change tools . . . seven sizes of machines work materials up to 11 32" in mild steel . . . also works stainless steels, non-ferrous metals, wire mesh and plastics.

CIRCLE CUTTING — FOLDING — WRITE FOR LITERATURE — SLOT CUTTING — BEADING — FREEHAND

PULLMAX—A complete sheet and plate working shop in one machine.

AMERICAN PULLMAX CO., INC.
2459 N. SHEFFIELD AVENUE CHICAGO 14, ILLINOIS

USEFUL INFORMATION
(Concluded)

If you write maker identify as IEN - 6235

PRINTING . . Selection chart lists materials by type of original and type of machine to make a print

Eastman Kodak Co.
341-5 State St., Rochester 4, N. Y.

Equipment and materials to be used in making a print are tabulated in new 18½ by 20¾-in. Kodagraph Chart FA-58. The tabulation is based on 11 types of original material to be reproduced, ranging from a poor-condition drawing to a microfilm negative. Recommended materials include four types of room-light positive Kodagraph products and three types of darkroom-handling negative Kodagraph products. Notes summarize their characteristics.

If you write maker identify as IEN - 6236

RECORD KEEPING . . In a safe place and in condensed form is described in new 28-page manual

Diebold Inc.
900 Mulberry Road, S. E., Canton 2, Ohio

Technical Manual 851, just published, carries the title of "Plan for Record Survival." It describes the vulnerability of business records in event of a national disaster, methods of making duplicate records, advantages of microfilm, which records to duplicate, where and how to store them, problems involved. Single copies are available upon request.

If you write maker identify as IEN - 6237

SAFETY . . On the highways, booklet uses cartoon pictures to stress its points

Travelers Insurance Companies
702 Main St., Hartford 3, Conn.

"Lucky You," the title of the company's 1952 booklet of facts and figures on highway accidents, is addressed to the person who was not involved in a serious accident during 1951. The 32 page booklet uses cartoons to point up its statistical information on types of accidents, age groups involved, vehicles, time at which accidents occurred. Last year's total of 2 million casualties is the worst on record.

If you write maker identify as IEN - 6238

VENTILATING . . Selection manual on air diffusers shows how they operate

Anemostat Corp.
10 E. 39th St., 7th Floor, New York 16, N. Y.

Transparent overlay sheet between pages 2 and 3 of new 40-page Selection Manual No. 40 shows how a typical air-diffuser fitting aspirates and distributes the air in a room. Following this is a pictorial selection guide with condensed information on 15 types. Arrows refer you to detail information on performance which comprises the bulk of the manual. A section at the rear shows how to install the diffusers. Please use your company letterhead when writing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6239

New! Low-Cost! Wide-Range!
VARIABLE Speed Sheaves
Easily Attached to Any Machine

1/15 TO 15 HP.
RATIOS UP TO 8:1

● Simple, sturdy Speed Selector Sheaves are applied to any machine in only a few minutes . . . giving you wide-range speed control at extremely low cost. You get wide speed variations with standard V-belts, since two variable pitch sheaves are used. Eliminates bulky sliding motor bases, movable jackshafts and wide, high-cost special V-belts.

• Standard V-belts • Automatic belt alignment
• Fixed shaft centers • LOW COST

Write FOR FREE BULLETIN
SPEED SELECTOR INC.
118-A Noble Court • Cleveland 13, Ohio

If you write maker identify as IEN - 6240

Prevent This LOSS with Mall Pneumatic Power Tools

Turn out more work, easier faster, with lightweight, vibrationless tools that reduce fatigue to an absolute maximum. Typical of Mall compactness and precision in pneumatic tools is this No. PG-K1030L Lever Throttle Die Grinder, weighing only ¾ of a pound and easily held in the palm of the hand. With a guaranteed speed of 30,000 rpm. and a maximum of .0015 runout at the collet, this Mall Pneumatic Die Grinder assures accuracy, precision and ease of operation.

Send For Complete Illustrated Bulletin With Price List.
40 Factory-Owned Warehouses, Coast To Coast, To Serve Our Customers.

Mall MALL TOOL COMPANY
7762 S. Chicago Ave. • Chicago 19, Illinois

If you write maker identify as IEN - 6241

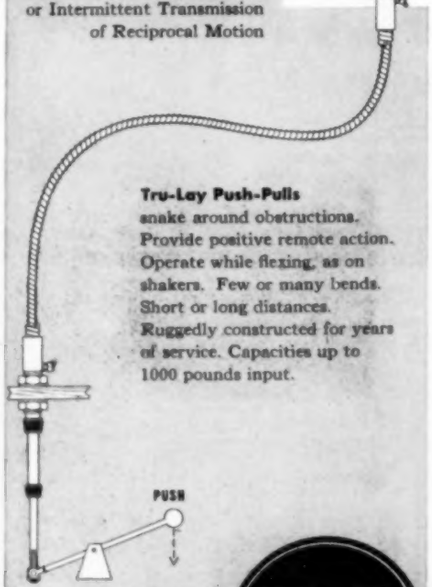
an ACCO product

TRU-LAY PUSH-PULL CONTROLS

SOLID . . . as a rod
FLEXIBLE . . . as a wire rope

for Continuous or Intermittent Transmission of Reciprocal Motion

Tru-Lay Push-Pulls snake around obstructions. Provide positive remote action. Operate while flexing, as on shakers. Few or many bends. Short or long distances. Ruggedly constructed for years of service. Capacities up to 1000 pounds input.

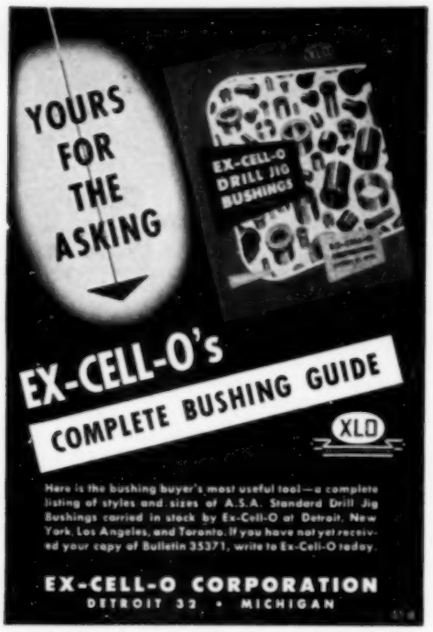


Write our Detroit office today for DH-387

TRU-LAY PUSH-PULL CONTROLS

ACCO
AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE
601 Stephenson Bldg., Detroit 2
2475 Porter St., Los Angeles 21 • Bridgeport, Conn.

If you write maker identify as IEN-6243



If you write maker identify as IEN-6244

WHICH DO YOU DO?

LOADING & UNLOADING

SHEET FEEDING

WORK POSITIONING

DIE HANDLING

RAYMOND

PORTABLE *Hydraulic* ELEVATING TABLE

FITS ALL FOUR!

No table has so many practical uses as this RAYMOND Portable Hydraulic Elevating Table! Use it for positioning or handling throughout the plant . . . see how it lightens your work load. RAYMOND Hydraulic Elevating Table has sturdy 30" square top which can be rotated when desired.

Convenient foot pump simplifies raising and lowering, leaves operator's hands free. Smooth-rolling casters make table highly portable. Floor lock holds it securely in place. Standard Model elevates from 28" to 44"; Telescopic Model from 28" to 50". Both models have 2,000 lb. capacity.

SEND FOR BULLETIN 232 . . . it gives you the facts on this RAYMOND Portable Hydraulic Elevating Table. Write for it today.

RAYMOND

ELECTRIC INDUSTRIAL TRUCKS • HYDRAULIC ELEVATING EQUIPMENT

The RAYMOND CORPORATION

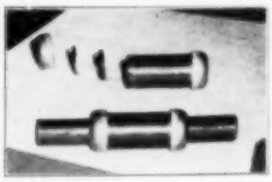
Formerly LYON-Raymond Corporation

3569 Madison St., Greene, N.Y.

If you write maker identify as IEN-6246

PIPE FITTING . . Coupling to join the ends of unthreaded pipe

Source: KWIK-JOINT MFG. CO.
405 E. 159th St., Harvey, Ill.



Also 45 and 90 degree ells

Sizes range from ½ to 1½ in. for this new compression coupling. The body is formed by a pipe nipple that is threaded at both ends and rolled to present sealing shoulders. It applies in connection with a pair of rubber sealing rings, steel washers and threaded caps to joint two lengths of pipe. Tightening the caps closes the washers in on the seal rings so they compress inward to make a tight joint.

If you write maker identify as IEN-6247

LUBRICATING . . Powdered molybdenum disulfide for high heat and pressure

Source: MOLY-LUBE PRODUCTS
309 E. Shore Road, Great Neck, N. Y.

Single bottle lists at $3

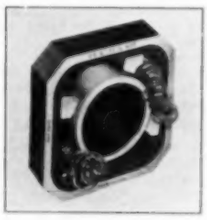
Moly-Lube "99" designates a new formulation of the company's molybdenum-disulfide lubricating powder. It contains about 1 per cent of harmless impurities and is available at a lower cost than the company's "Super" formula with its 99.9 per cent purity. Packaging is in Plax polyethylene ½-lb. bottles with a dispenser top, as previously described IEN-1270-52.

A user opens the top, squeezes the bottle to spray the powder where it is needed. The powder acts to prevent galling and seizing between rubbing surfaces. It is particularly suited to run in new machines and for use in connection with deep drawing and press-fit assemblies. It remains stable between minus 125 and plus 600 deg. F. It is a good dielectric at ordinary temperature. It can be added to oils and greases as well as used alone to improve those lubricants.

If you write maker identify as IEN-6248

THREADING . . Solid pipe die feeds the metal cuttings to the rear

Source: REED MFG. CO.
49 Wright Bldg., Erie, Pa.



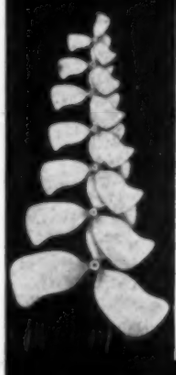
Opposed chasers that make the major cuts in this new pipe die are designed so they produce long curled cuttings which they cause to feed to the rear. The die cuts freely and there is no problem of clogging. The throat design permits threading pipe up to 2 in. in diameter without requiring a lead screw. The dies are available in pipe sizes from ⅛ to 2 in. and are interchangeable in all of the company's solid-die threaders.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 39

If you write maker identify as IEN-6249

Kloppenborg (one piece) Cast Aluminum

EXHAUST and CIRCULATING FAN BLADES



INDUSTRIAL USE

Where air is to be moved—Kloppenborg one-piece high grade cast aluminum alloy fan blades are proving exceptionally efficient. Kloppenborg Fan Blades are purchased by many of America's leading industrial-plants.

EIGHT SIZES

Kloppenborg Fan Blades are made in 8 sizes—from 12" to 30"—and are rated at 1750 RPM to delivery approximately from 1255 to 14,500 CFM. They are bored to most shaft specifications and are carefully balanced. YOUR maintenance men can install them easily.

Send today for a catalog on blades and all other parts needed for fans.

KLOPPENBORG ALUMINUM FOUNDRY

Established 1938

DAVENPORT 5, IOWA

If you write maker identify as IEN-6250

for safety's sake

PUT YOUR LOAD ON *the Hook that has never failed*

Since its development over 25 years ago, no one has ever reported the failure of a Coffing Hoist hook under any load or overload.

. . . And you'll find the same careful engineering for greater safety . . . the same close attention to detail in every part of a Coffing Hoist, for example:

SAFETY-PULL RATCHET LEVER HOISTS have these safety features:

- ★ Ratchet and pawl cannot slip or drop load.
- ★ Handle bends at point of maximum safe overload.
- ★ Handle will not spin or fly up.
- ★ Factory-tested at 100 percent overload.

10 sizes, 1,500 lb. to 15 tons

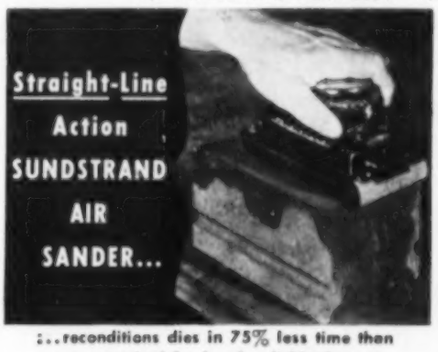
Find out more about the Coffing Safety-Pull hoists that are built stronger for safety's sake. Write Dept. P6SP.

COFFING HOIST CO., Danville, Illinois

Sold by Distributors Everywhere

Quik-Lift Electric Hoists • Hoist-Alls • Mighty-Midget Pullers • Spur-Gear Hoists • Differential Chain Hoists • Load Binders • I-Beam Trolleys

If you write maker identify as IEN-6251



. . reconditions dies in 75% less time than required for hand polishing!

Heavy dies used by The Washburn Company for flattening the stainless steel shanks on kitchen tools must be highly polished, free from scratches. Otherwise, imperfections show up in the finished products and dies must be replaced more often. Now, the Sundstrand Single-Pad Sander machine polishes dies in 75% less time than required for hand polishing. For solutions to your sanding problems on wood, metal, or plastics, see your nearby distributor or write for Bulletin IE-6.

SUNDSTRAND

SUNDSTRAND AIR SANDERS

SUNDSTRAND MACHINE TOOL CO.

PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

If you write maker identify as IEN-6252

PUSH up production . . . PULL down costs

HEIN-WERNER PUSH and PULL "JacKit"

Pump operates at any angle . . . in any position!

If there's a job of pushing, pulling, bending or spreading to be done, a Hein-Werner "Push and Pull" Hydraulic Jack is a great time-and-labor saver.

The new Hein-Werner "JacKit" (C-12) includes the service-proven 10-ton "Push and Pull" Hydraulic Jack and basic attachments complete in sturdy wooden chest.

Available in models of 4, 10 and 20 tons capacity complete in wooden chest or railaway metal stand. See your industrial supply distributor for details or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION

Waukesha, Wis.

If you write maker identify as IEN-6253

Specify **T-J** FOR MORE WORK BETWEEN GRINDS

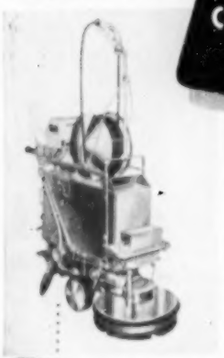
In die and forge shops everywhere . . . T-J Die Sinking Milling Cutters are today's top favorites . . . because they're "tops" for cutting tough die steels! T-J Cutters hold a sharp edge longer on job after job . . . less breakage! Made from an extremely high grade steel . . . properly machined . . . scientifically heat-treated and accurately ground. Wide range of styles and sizes. Send for new catalog 150. The Tomkins-Johnson Co., Jackson, Mich.

FOR TOUGH JOBS SPECIFY T-J

TOMKINS-JOHNSON

If you write maker identify as IEN-6254

NEW Self-Propelled SCRUBBER-VAC.... .... CUTS CLEANING TIME 2/3!



For Small-Area Factories (2,000 to 15,000 sq. ft. of floor)

The *new, 418P Finnell Scrubber-Vac* cleans floors *in approximately one-third the time* required with a conventional 15 or 18" scrubber-polisher. And the *new 418P* also handles the dry work — polishing, steel-wooling, etc. Has 18" brush ring. Vacuum performs *quietly*. The machine can be leased or purchased.

Applies cleanser, scrubs, and picks up — in ONE operation!

FIND OUT WHAT YOU WOULD SAVE . . . with a *Finnell Scrubber-Vac*. *Finnell* makes several models and sizes. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2606 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC. Originators of Floor Scrubbing and Polishing Machines — FINNELL — BRANCHES IN ALL PRINCIPAL CITIES

If you write maker identify as IEN-6255

NEW!

RIEHLE HYDRAULIC UNIVERSAL TESTING MACHINES CATALOG

Now, a *complete* 32-page catalog on Hydraulic Universal Testing Machines, from 10,000 lbs. through 400,000 lbs. capacity. Illustrations, specifications, operating details, accessories.

SEND FOR YOURS TODAY!

RIEHLE TESTING MACHINES DIVISION, DEPT. IEN-652
AMERICAN MACHINE AND METALS, INC.
EAST MOLINE, ILLINOIS

Without obligation, send new Riehle Hydraulic Universal Testing Machines catalog.

FIRM NAME

ADDRESS

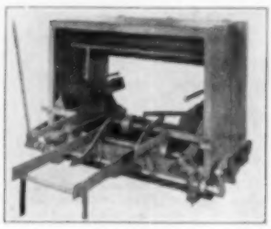
CITY ZONE STATE

SENDER'S NAME

If you write maker identify as IEN-6256

CLEANING . . Wet brush machine to scrub the exterior of steel drums

Source: VOL-U-METER CO.
P. O. Box 54-A, Buffalo 16, N. Y.



Drum scrubber

A steel drum is rolled into place on a pair of rotating roll shafts in the base of this new machine. Then a lever is operated to swing three brushes in from the ends and top. The brushes scrub dirt, grease, foreign matter from the exterior of the drum while it is being rotated by a drive motor at the outside of the housing and while water is sprayed on the brushes through drilled pipes that connect to a shop water supply. The cleaned drum is ejected from the rear of the machine and another one is rolled into its place. Rotation is at 30 rpm. with a 1½-hp. motor. Overall dimensions are 4 by 6 by 4 feet. Weight is 1,770 pounds.

If you write maker identify as IEN-6257

TIMING . . Two-circuit interval unit contacts rate 10 amp. on 110 volt ac.

Source: M. H. RHODES INC.
28-32 Bartholomew Ave., Hartford 6, Conn.

For sequence control

Series 6700 designates new electric interval timer for control of two circuits. One can be opened at a predetermined time in an overall interval to be followed by opening of the second at the end of the total selected time. The unit has been designed particularly for use on appliances such as clothes driers to provide the two circuits to operate blower and heater. Thus the heater circuit can be opened prior to opening the blower circuit to provide a cooling period before final appliance shut-off.

The spring-driven mechanism is wound by turning a knob on the housing face. The winding action also serves to start the interval. The unit is Underwriters' Laboratories approved. Overall dimensions are about 2¾ in. in diameter by 1¾ in. in depth. The unit shown is known as No. 6701-T.

Identify as IEN-6258

Look on the floor of your locker room when you go out to play golf next week-end. Note the condition it is in as a result of walking over it with spiked shoes. If it does not look so good suggest to your club manager that he investigate Koroseal Crystaltone tile flooring. That was the procedure followed at the Broadmoor Golf Club in Colorado Springs. Golfers' spiked shoes have little effect upon it.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN-6259

KEYSTONE JUNIOR CONVEYORS

THE CONVEYOR THAT GIVES MAXIMUM FLEXIBILITY AT LOW INITIAL COST!

- Load capacity to 80 lbs. per trolley.
- Up to 15,000 lbs. live loads on a single sprocket or caterpillar drive. (Multiple drives for heavier loading).
- 9 inch minimum radius on horizontal turns.
- No track welding, cutting, or fitting required.
- Trolleys with grease packed ball bearing wheels.
- Rivetless drop forged chain. 2" pitch.
- 2 foot minimum radius on vertical turns.
- 100% prefitted, bolted joints. Easily installed.
- Overhead or floor supported.
- Speeds from 3 inches P. M. to 80 feet P. M.

KEYSTONE JUNIOR CONVEYORS are identical to their big brothers — the 348 and 458 which are the accepted standard of the world. Those conveyors are in daily use in hundreds of plants throughout the country. At your request our local field representatives will show you a KEYSTONE JUNIOR CONVEYOR in operation.

WRITE FOR BULLETIN 511.

KEYSTONE CONVEYOR CO.
21752 W. EIGHT MILE • DETROIT 19, MICH.

If you write maker identify as IEN-6260

This FREE New Booklet Tells You How

In its 28 illustrated pages you'll find the answers to many questions that affect the success of your electroplating on steel. You'll want to read more about:

- Which costs more: good electrocleaning or poor electrocleaning? *See page 4.*
- How can cleaning costs be reduced 33% while plating quality is being improved? *See pages 7 and 8.*
- What are four easy ways to improve the average rinse tank? *See page 10.*
- What rinsing fault is "an invitation to trouble" in the plating of high-carbon steel? *See page 11.*
- Why is it better to clean steel with reverse current than with direct current? *See pages 12 to 14.*
- What causes hydrogen embrittlement during electrocleaning? What is the remedy? *See pages 15 and 16.*

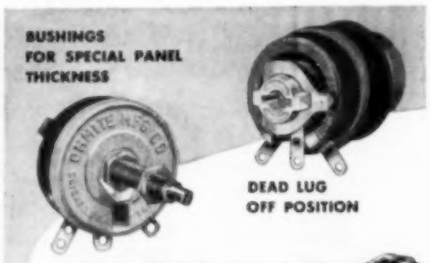
FREE For a copy of *"Four good steps toward better electroplating on steel"*, write to Oakite Products, Inc., 16A Rector St., New York 6, N. Y.

Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

If you write maker identify as IEN-6261

BUSHINGS FOR SPECIAL PANEL THICKNESS



DEAD LUG OFF POSITION

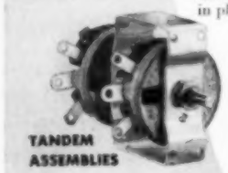
OHMITE
CLOSE-CONTROL
RHEOSTATS

TOGGLE SWITCH

AVAILABLE WITH MANY SPECIAL FEATURES . . .

SCREW DRIVER SLOT SHAFT

Ohmite offers not only a line of *standard* rheostats, but also rheostats with a wide variety of *special features*. Illustrated are only a few. All have the distinctive Ohmite design features: smoothly gliding metal-graphite brush; all-ceramic construction; insulated shaft and mounting; windings permanently locked in place by vitreous enamel. You'll find the special rheostat feature you need in the dependable Ohmite line.



TANDEM ASSEMBLIES

OHMITE MFG. CO.
4813 Flournoy St.,
Chicago 44, Ill.

Write on company letterhead for Engineering Catalog No. 40.

Be Right with **OHMITE**®

RHEOSTATS • RESISTORS • TAP SWITCHES

If you write maker identify as IEN - 6263

Johnson Flexible Seamless Metal HOSE

For conveying under pressure or vacuum
Steam-Oil-Water-Gas-Refrigerants

Ask for Bulletin J-3

Deep convolutions provide for extreme flexibility.

Made of brass, bronze, carbon steel, stainless steel alloys.

Standard or special fittings available for hot or cold service.

JOHNSON METAL HOSE INC.
P. O. Box 952 Waterbury 20, Conn.

If you write maker identify as IEN - 6264

TRUCKS AND TRAILERS MOVE FASTER, EASIER ON NEW WHEELS BY ELECTRIC

Modernize baggage-trucks, industrial trailers, floor trucks, mail carts and other portable equipment with new ELECTRIC wheels **for faster, easier handling.** There is an ELECTRIC wheel for every job.

Our 65 years of engineering "know-how" assures you of top performance from ELECTRIC equipment.

ELECTRIC wheels are furnished with or without roller bearings to fit your own axles or complete with axles—steel tires, molded-on-tires, or pneumatic tires. All types are available in a full range of sizes.

Our experienced engineers are always at your service.

WRITE FOR COMPLETE INFORMATION

ELECTRIC WHEEL CO.
2814 SPRUCE · QUINCY, ILLINOIS

If you write maker identify as IEN - 6265

WHY GUESS THE TEMPERATURE . . . when you can see it!

Accurate Temperature at a Glance with the Simplified PYRO OPTICAL PYROMETER

Any operator can quickly determine temperature on minute spots, fast moving objects and smallest streams. Completely self-contained. No calibration charts or accessories needed. An accurate, direct reading Pyrometer that pays for itself by helping prevent spoilage. Weighs 3 lbs. Available in 5 temperature ranges, (1400°F to 7500°F). Ask for free Catalogue No. 80.

The Improved **PYRO** SURFACE PYROMETER

8 INSTRUMENTS IN ONE. Handles all surface temperature measuring jobs. Has selection of 8 types of thermocouples; all interchangeable in seconds with no recalibration or adjustment. Automatic cold end compensator. Shock, moisture and dust proof. Accurate, big 4½" indicator. Available in 5 temperature ranges. Ask for FREE Catalogue #166.

THE PYROMETER INSTRUMENT COMPANY
New Plant and Laboratory
Bergenfield 21, New Jersey
Manufacturers of Pyro Optical, Radiation Immersion and Surface Pyrometers for over 25 years.

If you write maker identify as IEN - 6266

TESTING . . Air conditioned cabinet encloses 27 cu. ft. of controlled air

Source: MURPHY & MILLER
1324-28 S. Michigan Ave., Chicago 5, Ill.

Simulates service conditions

Relative humidity between 20 and 95 per cent, temperature range from 35 to 185 deg. F. can be maintained for product testing by this new cabinet. The equipment includes a hermetically-sealed refrigeration unit and electrical heating equipment to lower or raise the interior temperature. Controls hold the temperature as well as the humidity at any desired point within the overall range. Condensing equipment anticipates and prevents formation of condensation on work being tested.

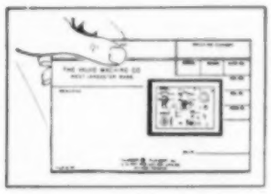
A glass viewing panel with a built-in wiper permits the operator to observe internal conditions. The assembly also includes two stainless-steel hand-hole ports, a vapor-proof interior light, forced air circulation, adjustable shelf brackets in the stainless-steel work space, six electrical leads.

Switches for the circuits controlling temperature and humidity are mounted on an externally locked control panel which mounts pilot lights for each circuit. A time-schedule control can be added to specification to preset the dry and wet-bulb temperatures and vary the humidity in sequence.

If you write maker identify as IEN - 6267

RECORD KEEPING . . Window file cards mount microfilm for quick reference

Source: FILMSORT INC.
48-52 S. Pearl St., Pearl River, N. Y.



Typical card and film

New file cards, known as Filmsort Jacket, have been added to the company's line of microfilming and viewing equipment. The cards provide a means to sort, store and quickly refer to desired subjects that have been reproduced on 16, 35, or 70-mm. film. Standard sizes range from 3 by 5 in. to 5 by 8 inches. The company is prepared to make units as small as 2½ by 3 in. for 16-mm. film to as large as 1½ by 14 in. for 35-mm. film.

The card is made of index stock and is die cut to provide openings for the film. Two layers of transparent plastic are laminated on the faces of the card, front and back. A slit, the width of the pocket, is cut in the top sheet for film insertion. The film rides in the die-cut opening where it is protected against dirt and scratching. The card carrying the film can be inserted in a viewer for reading or enlargement. It can be coded in any of ten colors to assist in quick identification.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6268

If you write maker identify as IEN - 6269

FOR YOUR TOUGHEST JOBS NEW OTC

30 TON POWER-TWIN Hydraulic Puller
BIG BROTHER TO THE FAMOUS 17½ TON POWER-TWIN

FAMOUS CENTER HOLE
Lets Power-Twins do jobs thought impossible . . . unlimited adjustment . . . eliminates torque, friction . . . versatile interchange of parts.

Dynamite . . . the tough 30 ton OTC Power-Twin Hydraulic Puller . . . saves hours and dollars on every overhaul job. Light . . . compact . . . safe remote control. Gives 30 tons of power with only 100 pounds of pump pressure. Complete Hydraulic Puller sets for both 30 ton and 17½ ton Power-Twin.

WORKS WONDERS
Power-Twin pulls or installs bearings, gears, pinions, shafts, studs, wheels, pulleys . . . also performs as a heavy jack, straightener or compressor.

See your jobber for complete information or write us.

OWATONNA TOOL COMPANY
371 CEDAR STREET • OWATONNA, MINNESOTA

If you write maker identify as IEN - 6270

ELECTRIC
TACHOMETERS
Simplified RUGGED Design

HAND MODEL
Small size and light weight — ideal for any shop and production test application. Precision made, sealed ball bearings, and the elimination of wearing parts assure constant accuracy. Models from 0-2,400 RPM + 600 FPM, 5,000, 15,000, and 25,000 RPM. $42.50 and up.

PORTABLE MODEL
Measures any rotating speed with sustained accuracy for production and laboratory use. Three-range expanded scale: 0 to 1,000; 1,000 to 2,500; 2,500 to 5,000 and other models up to 20,000 RPM. Stability assured with no contacts, brushes or batteries to wear out. Accuracy ½, 1 or 2% of full scale. $71.00 and up.

MOUNTED MODEL
Non-directional or indicating forward or reverse speeds in any required range up to 25,000 RPM. Available with SAE fittings and base mount. Calibrated to your exact needs. Completely enclosed and protected against moisture and dirt. $42.00 and up.

Special models made for any specific requirements

ELECTRO-MECHANO CO.
269 E. Erie St., Milwaukee, Wis.

If you write maker identify as IEN - 6271

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

SHAF-TITE* ROLLS

Minimum Sizes 3" diameter and 3" face length

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.
173 Main Street, Orange, Mass.

*Reg. U. S. Pat. Off.

If you write maker identify as IEN - 6272

The Really Rugged Bar Iron Truck You've been waiting for!

Heavy duty for bars, tubes and angles.

LANSING COMPANY

TRUCKS BARROWS CARTS
TRAILERS CASTERS SKIDS

"Keep Your Products on Wheels"

Main Office and Factory: LANSING, MICH.

If you write maker identify as IEN - 6273

UNCLE SAM needs YOU

Model 218

Don't let Uncle Sam down with a maintenance *let-down*. Your first step in getting defense orders is a clean plant. Doyle Vac-Its are vital to your defense programs. Write Doyle today. No obligation.

Doyle VACUUM CLEANER CO.

2233 Stevens St., S. W. Grand Rapids 7, Michigan

If you write maker identify as IEN - 6274

ALL INFORMATION, METHODS, AND IDEAS NEEDED TO PRODUCE *BETTER TOOLS AND DIES*

Practical Data on Popular Analyses of Tool Steels, their Selection, Heat Treatment, and Use

in the Revised, Enlarged SIXTEENTH PRINTING of this

TOOL and DIE STEEL HANDBOOK

By Palmer and Luerssen

Here's the BOOK OF ANSWERS for every man responsible for tools and dies. Shows you how to increase your company's production from present equipment—how to reduce toolmaking trial and error, conserve tool steel, avoid die troubles, simplify heat treatment. Gives complete working information on everything from selection of the right steel to heat treating methods and equipment, hardness and toughness testing. Latest data on high speed and hot work steels. 504 pages. 155 charts, photos, diagrams give you facts on: how design affects heat treatment, hardenability tests, time required to heat different tools to required hardening and drawing temperatures, furnace atmospheres, quenching, tempering, trouble-shooting.

INCLUDING 80-PAGE ALPHABETICAL SELECTOR, BOUND RIGHT IN THE BOOK, SHOWING WHICH STEEL TO USE FOR ALMOST EVERY TOOL AND DIE. Use this book to train new men and upgrade skilled men.

OVER 100,000 COPIES IN USE! CLIP AND MAIL NOW

THE CARPENTER STEEL CO. • READING, PA. • DEPT. BX-2

Please send me, postpaid, your revised "Tool Steel Simplified". I enclose $2.00 ($2.50 outside U.S.A.) in full payment of the book.

NAME _____ TITLE _____

FIRM NAME _____

MAILING ADDRESS _____

CITY _____ STATE _____

(Please print)

If you write maker identify as IEN - 6275

TESTING . . Electronic instrument detects and localizes noise, vibration

Source: ERWOOD INC.
1768-72 Berteau St., Chicago 13, Ill.

List is $110

Electro-Probe is a new electronic instrument that connects to a 110-volt 60-cycle ac. line. It is actuated by a metal probe which the operator places in contact with a suspected source of noise or vibration. The equipment is inert to airborne sound. It transmits impulses electrically through a 4-in. loudspeaker or through earphones.

A volume control on the amplifier permits adjustment. Overall frequency is in a range between 30 and 20,000 cycles on accuracy within 5 per cent. In addition to the audible indication the noise level also registers on a meter on the instrument housing. Overall dimensions are 10 by 6½ by 5¾ inches. Weight is about 12 pounds.

Noises can be located in bearings, rotating and reciprocating shafts, differentials, gear housings, traps, valves, instruments. Flow through a pipe line can be checked as can any other source of mechanical vibration.

If you write maker identify as IEN - 6276

PRESS . . Eccentric type machine for forging work, 300 to 4,000 ton

Source: E. W. BLISS CO.
1373-77 Raff Road, S. W., Canton 10, Ohio

Features rigidity

Main shaft in this new press is eccentric design. It assembles with the pneumatic friction clutch and pneumatic-release spring-set brake in the welded-steel press frame. The assembly includes a buffer cylinder in the crown to assist the brake in stopping the heavy slide at the top of its stroke and to supply accelerating force to relieve some of the load on the clutch when it engages.

A load indicator registers elongation of the frame upright as a measure of work load. It is part of the standard equipment. Each press assembly is built to meet given specifications for operating speed, stroke, capacity and dimensions.

Identify as IEN - 6277

Twelve colors, one for each month of the year, are produced in Topflight self-adhesive tape ½ in. in width. Each color is imprinted with the date code for its month. The tape is used on film, photographic paper and containers holding chemicals which deteriorate after a prescribed time and must be dated. The tape is used to seal containers. It is readily identified as it stands in storage.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN - 6278

STEAM FOR HEAT OR PROCESS

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 317

SUPERIOR COMBUSTION INDUSTRIES, Inc.
Factory: Emmaus, Pa.
East. Offices: Times Bldg., Times Sq., New York N. Y.
SUPERIOR STEAM GENERATORS

If you write maker identify as IEN - 6279

LAUGHLIN SAFETY HOOKS...

Drop forged steel hook with pressed steel or cast bronze latch, stainless steel spring and rivet attached to hub of hook forging.

Fifteen sizes for safe working loads from 1200 to 30,000 lbs. Available in eye, shank or swivel patterns.

BEST POSSIBLE PROTECTION FOR EVERY LOAD

Latch locks the load, leaves 80% of regular throat opening.

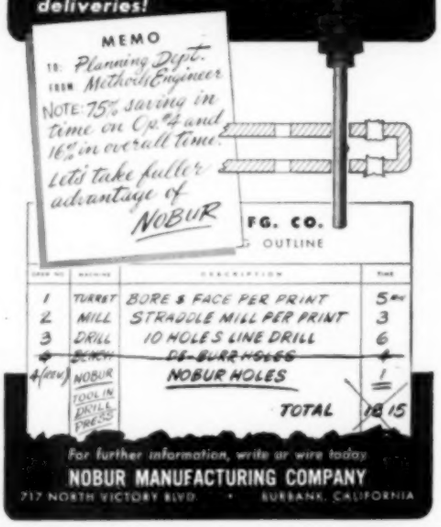
Safety Hooks are one item in Laughlin's line of 1500 types and sizes of wire rope and chain fittings — both standard and exclusive. For complete information, send for free catalog No. 150.

THE THOMAS LAUGHLIN CO. 61 FORE ST., PORTLAND, ME.

LAUGHLIN
THE MOST COMPLETE LINE OF WIRE ROPE AND CHAIN FITTINGS

If you write maker identify as IEN - 6280

Deburring with NOBUR tool on drill press reduces production costs . . . speeds deliveries!



For further information, write or wire today

NOBUR MANUFACTURING COMPANY

717 NORTH VICTORY BLVD. • BURBANK, CALIFORNIA

If you write maker identify as IEN - 6281

Bearing "Bobbles"?

PITCHLIGN

Trade Mark

Roller Bearings may be the answer

Find Out!

RBC's PITCHLIGN bearings use a new type of 4-way roller control applied so that maximum efficiency is always obtained . . . rollers will not cock or jam as a result of incidental misalignment. PITCHLIGN saves weight, saves money—has the longest working life of any interchangeable bearing on the market. Get the facts! Write for Bulletin SF. 1066

WRITE TODAY!

RBC

ROLLER BEARING COMPANY OF AMERICA
TRENTON, N. J.

If you write maker identify as IEN - 6282

MEET THE NEW MODEL

MUCKLE VENTS

Take a look at the new silhouette . . . it's low slung and streamlined—better looking on any roof!
Get away from old, "eye sore" ventilators—get the newly designed Muckle Vents. Engineered for better performance in moisture laden air — the motor is out of line of air flow. A compact, good looking, easy to install all-in-one unit to fit any roof.

Write today for more information on Muckle Vents.

Muckle MANUFACTURING CO. OWATONNA 53 MINN.

If you write maker identify as IEN - 6283

Save Money with U. S. Royalite Tote Boxes!

Impervious to factory damage hazards, tote boxes made of U. S. Royalite save you money all around!

Tough, lightweight U. S. Royalite is waterproof, stainproof, not affected by oils, alkalies, most acids. Tote boxes made of this durable plastic are of *one-piece design* without rods, rivets, or seams. No metal parts to break, rust or corrode.

Speed up production line operations . . . cut manual handling time with U. S. Royalite tote boxes. Available *now* in a wide range of widths, depths and colors.

CHECK LIST OF ADVANTAGES OF U. S. ROYALITE TOTE BOXES

- ✓ Available immediately in any size
- ✓ Tough—will last indefinitely
- ✓ Lightweight
- ✓ Highly resistant to impact, non-splintering
- ✓ Not affected by oils, alkalies, most acids
- ✓ Color-permeated throughout for easy departmental segregation
- ✓ Will stack or nest
- ✓ Adaptable to any type conveying system
- ✓ Non-warping, non-corrosive
- ✓ Waterproof, stainproof, non-magnetic

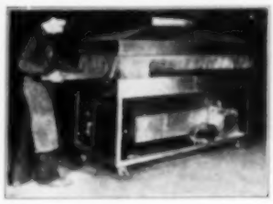
U.S. ROYALITE
SEAMLESS PLASTIC PRODUCTS

UNITED STATES RUBBER COMPANY
2638 North Pulaski Road, Chicago 39, Illinois

If you write maker identify as IEN - 6285

HEATING . . Electric furnace prepares aluminum bar stock to form

Source: PERENY EQUIPMENT CO.
891-95 Chambers Road, Columbus 12, Ohio



Rolls to job location

Working area in this new portable electric furnace measures 72 by 36 by 8 inches. Operation is at 300 deg. F. to heat aluminum bar stock prior to a forming operation to prevent the stock from cracking. The furnace measures 72 by 36 by 74 in. overall. Operation is on 440-volt 3-phase ac. with current demand at 36 kw.

Heat is provided by fin-type elements. A blower circulates air to maintain uniform temperature. A semi-closed opening, to feed and discharge the long work, is provided by an asbestos strip curtain visible in the illustration.

If you write maker identify as IEN - 6286

PLASTIC . . Transparent sheet is flexible and tough, 36 in. width

Source: WARP BROTHERS
1102-6 N. Cicero St., Chicago 51, Ill.

Sample piece upon request

Flex-O-Glass trade names a new transparent plastic sheet that is supplied in 25, 50 and 100-yd. rolls, measuring 36 in. in width. It can be employed as a substitute for glass in window frames. It will protect wall areas against splashing and contact soiling. It can be employed to wrap fine tools and silverware against corrosion. The sheet can be sewn, cemented, heat sealed and nailed in place. It applies indoors or outside.

If you write maker identify as IEN - 6287

MILLING . . Live center and dog for taper work and spiral cutting

Source: READY TOOL CO.
554 Iranistan Ave., Bridgeport 5, Conn.

Provides accurate spacing

Style 130 for ¼ to 2-in. capacity and Style 132 for ¾ to 2⅜-in. capacity are included in this new design of milling-machine center and work-driving dog. The center unit is available with No. 10 or No. 11 B & S taper or with a No. 40 standard milling-machine taper in regular construction. The dog connects by means of a stud and hardened ball, the ball sliding on the stud and riding between ground jaws to act as a universal ball-and-socket connection. As a result, the work is driven but is not cramped or sprung by the angular motion.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6288

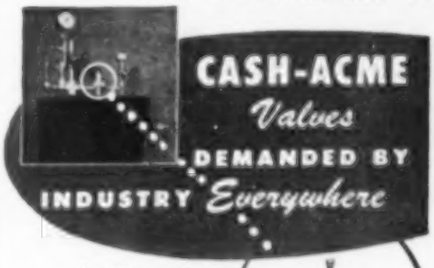
MILL IT *faster..* SAVE LABOR!

Kent-Owens advanced features mean *speed, accuracy* and *dependability*... in tool room or production milling. Rugged . . . simple in design and operation. Saves labor . . . reduces costs! Write for bulletins on wide range of hydraulic and hand-operated machines. Kent-Owens Machine Co., Toledo, Ohio.

No. 2-20 Milling Machine
Table, 42" x 12"
Table travel, 20"

KENT-OWENS
Milling Machines

If you write maker identify as IEN - 6289



Type "B" Pressure Reducing and Regulating Valve

steam generator manufacturer specifies
CASH-ACME

When the pressure's on, this steam generator manufacturer depends on a CASH-ACME Automatic reducing and regulating Valve for unfailing service. It's the same story in any industry that requires consistent pressure control. CASH-ACME is specified by more and more manufacturers. Write today and find out how a CASH-ACME Automatic Valve can help with the successful operation of your product.

CASH ACME SILENT SENTINEL Automatic Valves

A. W. CASH VALVE MANUFACTURING CORP.
6612 E. Wabash Avenue
Decatur, Illinois

If you write maker identify as IEN - 6290

ALL MADE TO Starrett STANDARDS OF QUALITY AND PERFORMANCE

By specifying one dependable make, you can be sure of peak performance on all operations involving Hacksaws, Band Saws and Band Knives. The complete line includes all types of hacksaws for hand or power cutting ... band saws for cutting metal, wood, plastics, contour cutting, friction sawing, etc. . . . and band knives for cutting any soft or fibrous material.

A GUIDE TO GREATER VALUE

All in one handy catalog — complete information plus useful cutting data applying to the entire Starrett line of hacksaws, band saws and band knives. It's free. Write for it today. Address Dept. N.

Starrett
THE L. S. STARRETT COMPANY · ATHOL, MASS., U.S.A.
BUY THROUGH YOUR DISTRIBUTOR

If you write maker identify as IEN - 6291

WANT 2 or 2,000,000?

Do you need small tube-like parts within an unusual *combination* of properties? Do you need them in big quantities? Investigate the speed and ease with which Synthane laminated plastics can be machined on automatic screw machines—in your shop, or in ours. Mail the coupon today for complete information about Synthane fabrication facilities.

SYNTHANE

Manufacturers of laminated plastics
SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
South River Road, Oaks, Pa.

Gentlemen:
Please send me without delay, or obligation, the Synthane Machining Folder.

Name _____
Address _____
City _____ Zone ____ State _____

If you write maker identify as IEN - 6292

Step Up Production and Safety, Too with Schrader Air Ejection

You're losing production when operators must manually unload work that could be ejected by air. Extra work takes time, and adds hazards to the job.

A Schrader Air Ejection Set will give your presses — and operators — a new lease on life. Fully automatic these sets deliver enough air to eject the part, but no more. They are actuated by cams or trippers, and are delivered to you ready to install.

Various sets are available to handle any ejection problem.

Get full details on Schrader Ejection Sets. Write today for the Schrader catalog.

A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated

456 Vanderbilt Ave., Dept. D-39, Brooklyn 17, N. Y.

If you write maker identify as IEN - 6293

TYPE J7

RUGGED, COMPACT, INEXPENSIVE PRESSURE CONTROLS

TYPE J40

The Type J40 pressure control is a rugged, precision-built and inexpensive unit for use where light, compact and reliable controls, without head enclosures, may be used. It is used widely on industrial equipment, on aircraft and other engine applications. Complete specifications are covered in Bulletin #5-9. Write for one today.

The Type J7 is the most compact enclosed industrial pressure control offered by United Electric. It may be used for controlling gas, liquid or air pressure in applications where space and weight availability is a premium and where precise performance under rugged vibration conditions is a requisite. Bulletin #5-7 gives full details. Write for it today.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

If you write maker identify as IEN - 6294

FIND OUT About The Hand Truck Designed for YOUR Package

Find Out About American's complete line of Hand Trucks.
Find Out About American's "Designed-In" balance.
Find Out About American's Lifetime construction.
Find Out About American's Steelite® Industrial Wheels.
Find Out All About American Today — clip and mail the coupon Now!

THE AMERICAN PULLEY COMPANY

4240 Wissahickon Ave., Phila. 29, Pa.

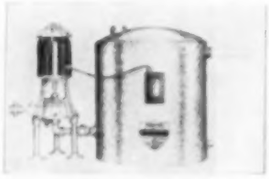
Complete line of Pressed-Steel Hand Trucks • Barrel Cradles • Steelite® Industrial Wheels

Gentlemen:
Please send me the complete story on American Pressed-Steel Hand Trucks.
Name
Firm Name
Address
City Zone State

If you write maker identify as IEN - 6295

PUMPS . . Motor driven centrifugal and tank for condensate return service

Source: ADVANCE PUMP CO.
2529-33 Ninth St., Dept. "1," Berkeley 10, Calif.



Tank fills by gravity

Condensate connects at a 2-in. inlet to the 20-gal. galvanized-iron tank forming the reservoir in this new condensate-return equipment. A float inside the tank operates a switch that closes the circuit to the ¼-hp. pump motor when the water level reaches a predetermined point. The motor then operates at 3,450 rpm. on a 110-volt 60-cycle ac. line to drive the single-stage pump.

The pump is connected through a 1-in. line from near the bottom of the tank. It delivers through a ¾-in line. The pump impeller is made of bronze in closed design. It is mounted on a stainless-steel shaft that issues through a bronze stuffing box to connect to the motor.

Two models rate 4 to 33 gpm. for delivery against a head ranging downward from 30 to 4 lb. and 2 to 10 gpm. against a head ranging from 60 to 30 pounds. Overall dimensions are 25 by 35 by 23 in. for the low-pressure unit, 25 by 41 by 23 in. for the high-pressure unit.

If you write maker identify as IEN - 6296

HEATING . . Induction equipment for ferrous and non-ferrous billets

Source: LOFTUS ENGINEERING CORP.
600 Smithfield St., Pittsburgh 22, Pa.

One, two or three coils

Illustrated is a typical unit in the company's new line of 60-cycle induction heating furnaces for automatic or semi-automatic handling and heating of metal billets. The equipment can be applied on aluminum, magnesium, copper, brass, steel. It is available in a range of sizes with capacity from 500 to 10,000 lb. per hour, billet diameter from 2 to 8 in., and current input from 62 to 1,250 kw.

A 62-kw. unit, to heat aluminum billets measuring 3¾ in. in diameter by 6 in. in length, will handle 500 lb. per hr. through a single coil at a heating rate of 75 pieces per hr. to a temperature of 850 deg. F. Temperatures can be specified to 1,450 deg. F.

Identify as IEN - 6297

We know a company in which is an excellent installation of coil-winding equipment. We know also that this company is prepared to handle coil-winding work on a contract basis, particularly for manufacturers of electronic and electrical components. The outfit is in New York City.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6298

NEW APPLETON V-51 SERIES CONVERTIBLE VAPORTIGHT LIGHTING FIXTURES

One of 250 Fixtures in this complete new line

Exclusive Unit Assembly

Pat. Applied for

Twist— it's on!

Never before a vaportight lighting fixture so safe, so efficient, so easy to install . . . so economically serviced and maintained!

Combined in an exclusive "Unit Assembly," receptacle, globe and guard are detachable as a *single unit* instantly, without tools! Re-lamping or cleaning becomes safe, swift and simple.

Reflector is quickly attached or removed for cleaning without tools—thanks to exclusive neoprene rubber ring attachment. Shock-absorbing socket in "Unit Assembly" permits the use of standard lamps where costlier mill-type lamps were formerly used.

Write for Bulletin 5-A

Sold Through Electrical Wholesalers

APPLETON ELECTRIC COMPANY
1716 Wellington Avenue • Chicago 13, Illinois

Field Engineers in All Principal Markets

APPLETON

CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND SWITCH BOXES • EXPLOSION-PROOF FITTINGS • BIBLITES

If you write maker identify as IEN - 6299

Man-Cooler!

Coppus Airplane Type Heat Killer cools large areas — restores efficiency

HEAT KILLER on the job in drop forge plant.

Steel mills, drop forge plants, foundries and other plants with hot working conditions find this Coppus Heat Killer increases worker efficiency . . . at reasonable cost. *A single fan cools large areas.*

Other types also available for cooling furnaces, electrical equipment, for driving out gases, drying out products, drawing out fumes. Write now for detailed information. COPPUS ENGINEERING CORPORATION, 146 PARK AVENUE, WORCESTER 2, MASSACHUSETTS.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

If you write maker identify as IEN - 6300

Moving or Storing is Rapid, Convenient and Inexpensive with IRONBOUND SEMI-LIVE SKID PLATFORMS

Ruggedly built with capacities up to 2500 lbs. These units are quickly made mobile with the use of low cost lift jacks . . . One of the methods that Ironbound engineers use to increase production and conserve space at low cost.

SEMI-LIVE SKID WITH BOX TOP

. . . permanently attached or removable. Also available with many other superstructures to "Short-Haul" your products thru production or into storage. Useful in hundreds of spots in every plant.

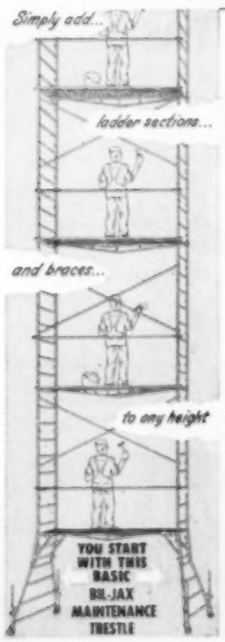
THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS

Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

If you write maker identify as IEN - 6301



BIL-JAX, Inc. ARCHBOLD - OHIO U.S.A.

MAINTENANCE TRESTLE gives you

ANY HEIGHT . . .

FASTER
SAFER
EASIER

Cut time and labor costs with these sturdy, all-steel trestle units. Many height variations possible, from one foot up. Ball bearing casters (locking type) make unit easy to maneuver. Patented. U. L. approved.

ALSO: sectional scaffolding, ladder jacks, hoist arms, sectional and lean-to ladders.

For sale or rent. Write for Bulletin No. L-6.

BIL-JAX, Inc.
ARCHBOLD, OHIO

If you write maker identify as IEN - 6302

KENT SAVES MANPOWER!

• KENT FLOOR MACHINE with "Balanced Power"
• KENT VACUUM CLEANER for Wet and Dry Work

KENT "FAST CLEANING TEAM" keeps floors safe, clean, attractive! Floor Machine scrubs, polishes, steel-wools . . . Vacuum Cleaner picks up scrub water, dry vacuums floors, walls, overhead pipes, girders!

Full Information upon Request!

CLEAN WITH KENT EQUIPMENT

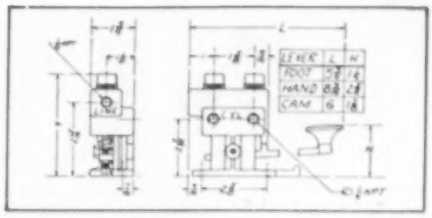
The KENT Company, Inc. • 437 Canal St. • Rome, N. Y.

If you write maker identify as IEN - 6303

If you write maker identify as IEN - 6305

VALVE . . Four way pneumatic is operated by hand, foot or cam

Source: WISLER ENGINEERING & MACHINE CO.
West St. & Railroad, Sturgis, Mich.



List is about $10

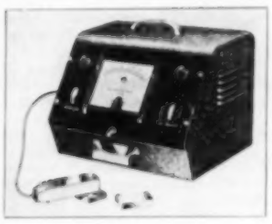
Neoprene is employed as the sealing means in the poppets on brass and stainless-steel seats in this new Sincro Bantam pneumatic operating valve. Neoprene O-rings impregnated with Gorlube seal the hollow poppet-operating stems that extend down through the bottom of the valve body for actuation by the operating lever. As long as these stems bear upward against the poppet, air cannot escape. When the poppet seats and its stem moves further down, the central passage forms the exhaust outlet in connection with side holes drilled near the stem bottom.

Air enters at one end above the two poppets at ¼-in. pipe-threaded opening. Connections to a cylinder are also through ¼-in. pipe openings in the housing side. The valve is designed for pressure to 100 lb. and can be employed as a three-way assembly, either normally open or normally closed, by plugging one of the cylinder outlets. The lever can be fitted with the hand knob shown, with a foot pedal, or with a follower roller for actuation by a cam.

If you write maker identify as IEN - 6306

GAGE . . Electronic instrument reads minute surface irregularities

Source: KOTA-METERS INC.
2309-13 Burbank St., Dallas 9, Texas



Checks with reference blocks

Gem tipped stylus mounted in a hand-held head is drawn across a test surface to provide an indication of roughness on a dial in a range from 1 to 100 microinches rms. in this new Model-100 Kota-Meter. The indicating needle on the dial "freezes" to indicate the average roughness so no calculation is required on the operator's part to determine this value.

Application can be made on internal or external surfaces, either flat or curved, on which surface hardness is sufficient to actuate the stylus. The instrument operates on 110-volt 60-cycle ac. It measures about 11 by 10 by 9 in. and weighs about 18 pounds. A compartment in the cabinet back contains the power-supply cord. A drawer at the front provides space to store the tracing head.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6307

DEPENDABLE ACCURATE CONTROL OF PROCESS EQUIPMENT WITH THE NEW...

Bell Switch CONTROL

HERE is help for liquid level control problems. The new Bell Switch Control incorporates a snap-action magnetic proximity switch which is actuated by a float operated magnetic armature. Gives you accurate control and automatic cutoff of such equipment as limit controls, scrubbers, separators and also can furnish high and low stage alarms. Especially suitable for use with highly corrosive fluids. There is virtually no liquid level control problem that can't be solved with this dependable, low maintenance Bell Switch Control. A number of standard and special mounting styles available to meet particular requirements.

- No Packing Boxes, Bellows or Diaphragms to worry over and replace
- Rugged Spun Steel Body
- Eliminates False Action due to Turbulence
- Standard or Explosion Proof Cover Available
- Mechanism Completely Isolated from Corrosive Fluids
- Switch Rating, 10 amps. at 110 volts, 5 amps. at 220 volts, A.C. Direct loads to ½ h.p. A.C. ratings

WRITE TODAY FOR COMPLETE DESCRIPTIVE LITERATURE

JO-BELL PRODUCTS, INCORPORATED
4840 So. St. Louis Ave. • Chicago 32, Illinois
Liquid Level Controls • Carbonators • Magnetic Switches • Special Controls

If you write maker identify as IEN - 6308

BROWNHOIST BUILDS BETTER BUCKETS FROM FACTORY FOR LESS
• BUY DIRECT POWER WHEEL
• ROPE REEVE, LINK TYPE
• WRITE FOR CATALOG

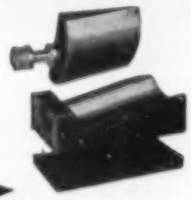
INDUSTRIAL BROWNHOIST CORP.
BAY CITY, MICHIGAN

156

If you write maker identify as IEN - 6309

NEW Empco JACK Gives you Quick Accurate Machine Leveling and it ABSORBS VIBRATION

New type JACK greatly reduces noise and vibration with VI-SORB Mounting Pads.



VI-SORB Mounting Pads

The combination of a new Empco Jack and VI-SORB is a long step forward in setting and keeping power-driven equipment level while combating the destructive forces of vibration.

Empco Jacks are self-aligning to give you the quickest, easiest, most accurate machine leveling ever known.

For precise machine leveling and maintenance you will save time and money if you use Empco Jacks with VI-SORB Mounting Pads. Write for complete information and prices today!

Remember: A level machine—kept on the level—does better work and lasts longer.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

If you write maker identify as IEN - 6310

Q. What vacuum-producing equipment operates without vibration?

A. The I-R STEAM-JET EJECTOR

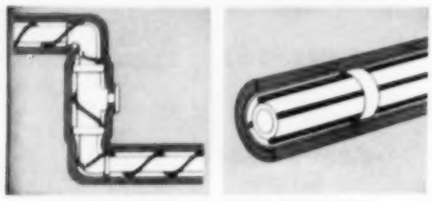
There's no vibration because the steam-jet ejector has *no moving parts*. Evacuation is produced by entrainment in a high-velocity steam jet, discharging into a venturi-type diffuser.

For vacuum pressures down to .002" Hg absolute, the Ingersoll-Rand Steam-Jet Ejector is unequalled for simplicity, ruggedness and long life. There's nothing mechanical to wear out, nothing to lubricate, adjust or maintain. Operation is quiet and free from vibration. Installation requires little or no foundation work.

I-R Steam-Jet Ejectors are available in sizes and types to meet every operating requirement. They can be supplied for any desired capacity—for handling any combination of air, gases and vapors—with precoolers, intercondensers and after-condensers as required. For further information ask for free Bulletin No. 9013A.

11 Broadway, New York 4, N. Y.
Ingersoll-Rand

If you write maker identify as IEN - 6311



HEAT PIPES easily and economically with G-E Calrod* heaters or heating cable. Wrapped around or clamped on, they're easy to install.

G-E CALROD* HEATERS GIVE EFFICIENT PIPELINE HEATING

To speed the flow of viscous materials such as plastics, asphalt, oils, foods, molasses—install G-E heating cable or tubular heaters now. Wrapped around or clamped on pipes, they do an economical and efficient job of warming the contents of pipes. Heating cable will help to prevent water pipes and valves from freezing and bursting. And G-E thermostatic control makes both jobs automatic.

FOR FREE BULLETINS, complete catalog of heaters and devices, GEC-1005, and "Heating Pipelines," GEA-5095, call your nearby G-E Sales Office or write: Section 720-74, *General Electric Company, Schenectady 5, N. Y.*

*Registered Trade mark

GENERAL ELECTRIC

If you write maker identify as IEN - 6312

Wherever there's a need for small speed reducers throughout industry you'll find that Abart offers the most logical answer. These dependable units have proved their superiority on thousands of different applications—because they're made better, of better materials. What are you looking for—longer, trouble-free service? Then Abart is *your* answer. Over 75 types and sizes. Ask our Engineering Service for the best recommendation.

ABART 1½A HORIZONTAL WORM GEAR DRIVE

Single reduction type. Ratios 5.4/5 to 1 up to 100 to 1. 1/30 H.P. to 1/3 H.P. at 1800 R.P.M. Weight, 8 lbs.

★ *Send now for "Pocket-Size" Catalog of Abart Speed Reducers and Gearmotors.*

Abart GEAR & MACHINE CO.
4823 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears and Speed Reducers

If you write maker identify as IEN - 6313

THE HP-600 ARBOR PRESS

For EFFICIENCY and ECONOMY

For light high-speed production and assembly presswork. Provides 800 lbs. of sensitive pressure and sensitive control. Frame, table and table standard are close grained iron castings, well braced and accurately machined. Ram and pinion are special steel. Three slots for arbor work—¼", ½" and ¾" wide. The ideal "Pressure Tool" for model makers, jewelers, instrument makers, radio men, research laboratories, schools, light production work, etc.

Straightening attachment available at $4.95.

$14.00 POSTPAID U.S.A.

Write for further information.

H. D. HERDER TOOL SPECIALTIES
2724 S. MICHIGAN AVE
KALAMAZOO, MICH.

If you write maker identify as IEN - 6314

CLAMP . . Quick acting lock to hold work in jigs and fixtures

Source: NATIONAL MACHINE TOOL CO.
1212-18 - 16th St., Racine, Wis.

Holding pressure to ¾ ton

New adaptation of the cam-operated locking mechanism, employed in the company's previously developed Grip-Master vise, is now offered for built-in application in jigs and fixtures to quickly clamp and release work. The mechanism includes a push-pull bar that slides in the clamp-equipped head. It is moved forward against a work piece and the clamping lever is operated to provide a combination of additional forward movement and tightening action to grip and hold the work. Reverse movement on the clamping lever releases the rod so it can be retracted to free the work.

The parts are hardened and ground with the exception of a 1-in. section at the end of the bar. This is left soft so the user can machine it to fit given clamping heads. Standard length of the rod, not counting the end knob, is 10 inches. Height above the base is 1¼ inches. Anchor-hole spacing in the base is 2⅞ by 3½ inches.

If you write maker identify as IEN - 6315

TESTING . . Viscosity meter covers range from 0.5 to 2,000,000 cps.

Source: BROOKFIELD ENGINEERING LABORATORIES, INC.
235 Porter St., Stoughton, Mass.

1952 design

Model LVT designates new design in the company's line of motor-driven Synchro-Lectric Viscometers. It provides a 200 to 1 ratio of speeds starting at 0.3 rpm. It can measure any viscosity between 0.5 and 2,000,000 cps. when equipped with an accompanying UL adapter.

The instrument is portable and is equipped with a bubble level permanently attached to the housing for correct application. It is accompanied by a set of spindles in a holder. A carrying case takes both the holder and the meter.

Identify as IEN - 6316

Sand mixes that tend to stick in a core box can be brought to a clean working condition by adding a small amount of a new liquid material known as Unilease. One part of the material is mixed with two parts of kerosene and a very small amount of the mixture is added to the sand. Sand and core boxes are kept clean. The blades of the sand mixer shine.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

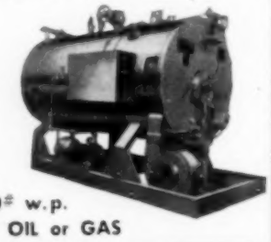
If you write maker identify as IEN - 6317

YOU GET REAL SERVICE WITH

AMESTEAM GENERATOR

Before Installing . . . A Complete Manual on "How To Do It"

After Installing . . . Our LOCAL Service Man Starts Unit and Provides Three Months Free Service



10 to 500 h.p.
15# to 200# w.p.
OIL or GAS

AMES IRON WORKS
BOX 1-6, OSWEGO, N.Y.
Builders of Better Boilers Since 1848

If you write maker identify as IEN - 6318

THE MOST
COMPACT CONVEYOR
FOR BULK MATERIALS

FORT WORTH Screw Conveyors and vertical Screw Elevators provide the most compact means of conveying or elevating bulk materials, such as grain and other free flowing products. Space occupied is less than half that of most other types of conveyors.

Vertical screw elevators are used to lift materials up to 70 feet, depending on the nature of the product.

Initial cost is low.
A minimum amount of upkeep is required.

WRITE FOR CATALOG 200B

FORT WORTH STEEL & MACHINERY CO.
DEPT. 26, 3600 McCART ST.
FORT WORTH, TEXAS

If you write maker identify as IEN - 6319

AIR-MITE AIR CYLINDERS

Worth Their Weight in GOLDen Man-Hours

SAVE time, spoilage, cost . . . speed production . . . reduce fatigue . . . on all drilling, reaming, tapping and processing jobs. Available in 1", 1½", 2¼", 3", 4" and 5" diameters; stroke length optional. Single or double action; all mountings.

Write for complete catalog of Air Cylinders and Air Arbor Presses.

AIRMITE 4417-L West Carroll Chicago 24, Illinois

If you write maker identify as IEN - 6320

here's your ANSWER to the

colored wire shortage!

E-Z CODE WIRE MARKERS simplify the assembly of wiring circuits by number or standard NEMA color code—answer problems created by a colored wire shortage. They maintain accuracy...minimize rejections...simplify inspection...and get the most from new, inexperienced employees, even when assigned to the most complicated wiring projects. E-Z Codes, with the exclusive Speed-Tab, are faster to remove from carrying card, quicker to apply *(without moistening)* and adhere permanently to wire and cable, even when pulled through conduit. They are unaffected by heat and humidity. E-Z Codes are the efficient, low-cost answer to your colored wire shortage problem.

WRITE FOR SAMPLES TODAY!

WESTERN LITHOGRAPH CO.
600 East Second Street
Los Angeles 54, Calif. Dept. IEN-6
740 Lackylaine Avenue
St. Louis 3, Mo.

If you write maker identify as IEN-6321

MERRILL MATERIALS HANDLING DEVICES

3-M-2

MERRILL BROTHERS
56-14 ARNOLD AVENUE MASPETH, N. Y.

If you write maker identify as IEN-6322

when the Chips are Down-
take 'em OUT with a HOUDAILLE CONVEYOR

Licensed under Hapman's Patents No. 2,147,199 and 2,432,756

All Honan-Crane equipment is sold on a performance guaranteed basis.

In this large motor car plant, Houdaille Enclosed-Flight Conveyor continuously removes chips from pit beneath twin banks of Bausch 12-Station Transfer Drilling Machine. Chips are deposited into portable hopper for disposal. Houdaille Conveyor is ideal for removing small material from confined area. This installation paid for itself out of savings in one year.

Automatic System Solves Difficult Chip and Sludge Removal Problems . . . Cuts Costs, Speeds Production

Houdaille Conveyor's automatic loading and continuous materials transport handles any solid or fibrous waste (chips, abrasive sludge, scale, etc.) which settles to the bottom of a tank or hopper. Many plants of all sizes, in many types of operation, have saved substantially on labor, maintenance, down-time and other production costs by installing one or more Houdaille Conveyor systems.

Check these important Houdaille advantages:

- Eliminates costly manual cleaning and handling methods
- Operates continuously or intermittently as needed without shutting down productive machinery
- Readily adaptable to almost any need, any space or traverse requirement . . . ideal for restricted areas
- Dependable, trouble-free automatic operation; requires little or no maintenance attention; quickly pays for itself out of savings.

Write for complete information and case histories. Honan-Crane Engineering Service is available.

WORLD LEADING OIL FILTER MANUFACTURER

HONAN-CRANE CORPORATION
802 Wabash Avenue, Lebanon, Indiana
subsidiary of HOUDAILLE-HERSHEY CORP.

IN CANADA:
E. W. Playford, Ltd., Montreal 28
W. E. Micklethwaite, Toronto 18
Cummins Galbraith, Ltd., Edmonton, Alta.

© 1952, HONAN-CRANE CORP.

If you write maker identify as IEN-6324

PROTECTING . . Leather overalls and coat or jacket for women welders

Source: AMERICAN OPTICAL CO.
12-16 Mechanic St., Southbridge, Mass.

Comfortably safe

Leather with a chrome-tanned finish simulating soft suede-like material is employed in a new tailored overall and jacket or coat to protect women welders who are engaged in arc welding. The clothing is designed for free body movement and still fits snugly enough so there are no gaps or openings to permit entrance of flying sparks. The flared trouser legs protect the feet and assist in putting the overall on and off over safety shoes. A side placket provides a trim comfortable waist line.

If you write maker identify as IEN-6325

CORROSION PROOFING . . Liquid dries to protective film on metals

Source: STOP-RUST CO.
P. O. Box 2054-A, Dept. IEN, Chattanooga 9, Tenn.

$3.00 per gallon in quantity lots

Special No. 6 is a new formula in the company's line of liquid corrosion proofing materials for application by brush, dip, spray or wiping. The liquid dries sufficiently for handling in about an hour. It is completely dry following complete evaporation of its solvent in about 24 hours. The dry film that remains measures 0.0005 in. in thickness. It is transparent, non-lubricating.

Characteristic of the film is its ability to absorb moisture from the pores of the metal it covers and to carry this moisture to its outer face for evaporation. It will not form condensation drops on the surface. It can be removed from bearing surfaces by simply applying bearing lubricant which then serves as a solvent and floats it out. Packaging is in pints, gallons and 55-gal. drums.

If you write maker identify as IEN-6326

FLOORS . . Leather link mat for application in front of machines

Source: STANDARD WASHER & MAT CO.
170 Adams St., Manchester, Conn.

Leather links with corrugated tops are assembled on plated spring-steel wire to make a mat measuring ⅝ in. in thickness and weighing about 2 lb. per square foot. The mat is particularly suited for use on floors in the presence of oil and grease. It minimizes fatigue for operators who must stand at machines. Sizes are subject to specification to meet the user's requirements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

If you write maker identify as IEN-6327

EMERGENCY or routine

Depend on your SKF Distributor for replacement ball or roller bearings or pillow blocks.

Whenever or wherever you need them in a hurry, this fast, local service is as near as your telephone.

Your SKF Distributor *knows* bearings—knows how to *keep* the right bearing in the right place.

SKF INDUSTRIES, INC., PHILA. 32, PA. — *manufacturers of* SKF *and* HESS-BRIGHT *bearings.*

SKF BALL AND ROLLER BEARINGS

IN EVERY INDUSTRY, SKF Puts The Right Bearing In The Right Place

If you write maker identify as IEN-6328

PORTELVATOR®
(THE HANDY HAMILTON PORTABLE ELEVATING TABLE)
LIFTS — LOWERS — LEVELS
TRANSPORTS

Eliminates "ganging-up" on heavy lifts. Reduces occurrence of industrial accidents. Eliminates the need for extra hands, extra trips.

STANDARD MODEL CAPACITIES TO 5000 POUNDS

SAFETY of OPERATION is inherent in the **PORTELVATOR** mechanical lift principle, which transmits power through worm, worm gear, and screw.

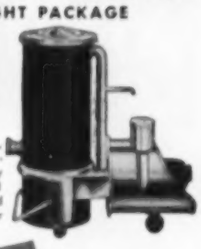
TAKE TIME TO LEARN THE DIFFERENCE
WRITE FOR BULLETIN P-508

THE Hamilton TOOL COMPANY
905 HANOVER STREET • HAMILTON • OHIO • U • S • A

If you write maker identify as IEN-6329

HEAVY DUTY POWER
IN A LIGHTWEIGHT PACKAGE

WITH SPENCER PORTABLE VACUUM CLEANERS



For heavy duty general cleaning, offices, hallways, laboratories, conference rooms, etc . . . wet pick-up . . . dry mop cleaning . . . 3 models (½, ¾ and 1 H. P.), sturdily built for long, hard service. (Larger machines available for plant use.)

WRITE DEPT. IE FOR DETAILS

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

10P82

If you write maker identify as IEN-6330

if you have a problem of misalignment

This new book will be a big help. It contains complete details on the entire Baldwin-Rex line of flexible couplings—Tru-Flex, Semi-Flex, Twin-Flex, Compound and Floating Shaft types. It gives you the facts on why Baldwin-Rex Couplings are truly flexible, are shock absorbing without backlash and are easy to install. The book includes all specifications, prices and horsepower tables.

Just use the coupon to send for your free copy today.

Baldwin-Duckworth Division of Chain Belt Company
350 Plainfield Street
Springfield 2, Mass. 51-408

Please send me Flexible Coupling Bulletin.

Name.....
Company.....Dept.....
Address.....
City.....State.....

BALDWIN-REX

If you write maker identify as IEN - 6331

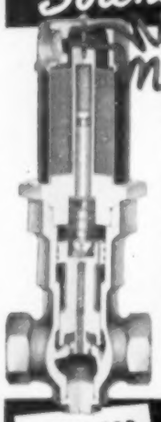
With a valve to suit the job air cylinders can be made to work wonders. Mead Air Valves, Single and Double Acting Air Cylinders, will help you cut costs, speed up work. Write for complete new Catalog of famous Mead air-operated devices!

MEAD SPECIALTIES COMPANY

4114 N. KNOX AVE., DEPT. EA-42 • CHICAGO 41, ILL.

If you write maker identify as IEN - 6332

ATKOMATIC Solenoid Valves



FOR AUTOMATIC OR REMOTE CONTROL

1. DAMAGING WATER HAMMER ELIMINATED.
2. ALL INTERNAL PARTS ACCESSIBLE without removing valve from line or breaking electrical connection.
3. PACKLESS—sealed operating chamber. No outside moving parts.
4. ONLY 3 MOVING PARTS, and no linkage of parts.
5. LINE PRESSURE IS MAIN ACTUATING FORCE—operates with slight pressure drop across seat.
6. OPERATING PRESSURES TO 3000 PSI.

ALL SIZES 1/4" to 3"

WRITE FOR LITERATURE

Atkomatic Valve Co.
545 WEST ABBOTT ST.
INDIANAPOLIS 25, INDIANA

If you write maker identify as IEN - 6333

Keep Lubrication Fittings Clean

with S.S. WHITE ELASTOPLASTIC CAPS

Here's a tip that will help cut maintenance costs and prolong bearing life . . . use these inexpensive flexible plastic caps on your lubrication fittings. They'll keep the fittings free from the dirt and grit that's often forced into the bearings when the grease gun is applied. The caps can be slipped on and off with ease — and once on, won't shake loose. They're also unaffected by oil, grease or water.

Sizes for Hydraulic, Button Head or 1/8" Dot Type Fittings. Order a supply.

BULLETIN P-5103 has details. Ask for a copy.

THE S.S. White PLASTICS DIVISION
DENTAL MFG. CO.
Dept. NP, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as IEN - 6334

DRIVE . . Pneumatic clutch for compressor drive, 5 and 10 hp.

Source: WICHITA FALLS FOUNDRY & MACHINE CO.
305-9 Barwise, Wichita Falls, Texas

Spring engages it

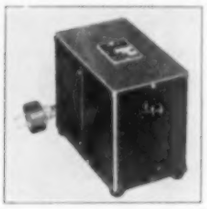
The company announces availability of a new clutch it has developed for small air compressors. Air pressure acts upon a diaphragm to disengage the drive when predetermined pressure has been reached. Pressure range, maximum and minimum, is set on a pilot valve that forms part of the assembly. The clutch is equipped with a lining providing for 1/4 in. wear before replacing.

The assembly consists of a V-belt sheave with ventilating spokes integral with the clutch housing and the spring-backed pneumatically-operated mechanism. One size is designed for compressors requiring about 5-hp. input at 700 rpm. It measures 16 in. in diameter and has a two-groove C-section sheave. The clutch unit is 8 in. in diameter. The other assembly mounts a 26-in. sheave with either two or three C-section grooves and an 11-inch diameter clutch. It is suited for compressors requiring input to 10 hp. at 600 rpm.

If you write maker identify as IEN - 6335

TRANSFORMER . . Voltage booster and control for small motor operation

Source: SOLA ELECTRIC CO.
4631-35 W. 16th St., Chicago 50, Ill.



Ask for Bulletin SCA-37

Rated voltage is supplied by means of this new transformer with its associated Sensivolt relay control for operation of a small motor such as that on a refrigerator, air conditioner or appliance with input voltage fluctuating below the 110-volt point. The unit is available in two sizes rating 2,000 and 5,000 va. Approximate voltage boost is 12 per cent in each case. The relay pulls in when input falls to 105 volts. It drops out at 110 volts to keep output voltage constant.

The small unit measures 8 by 5 by 7 inches. The large one measures 16 by 6 by 6 inches. Both are equipped with extension cords and plugs for connection to the ac. line and with a socket into which cord can be plugged for the motor.

If you write maker identify as IEN - 6336

Steel panel scaffolding was employed by a Pittsburgh contractor in place of wood shoring to build up support for a concrete slab. It was poured 30 ft. above the floor over an area 23 by 75 feet. The slab itself was 23 in. in thickness.

The scaffolding installed quickly, provided for 16½ in. of leveling adjustment in its regular construction. It served as scaffolding, after the slab was poured, while the slab form was being stripped down. Total load of concrete and forms on the scaffolding was about 300 lb. per square foot.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6337

If you write maker identify as IEN - 6338

Sheehan's HEAVY-DUTY TWO-PLANE FORGING CONVEYORS are Better!

SOLVES MANY FORGE CONVEYING PROBLEMS

Write today for literature on sizes, special applications and cost data. You will be surprised at Sheehan's high quality and low prices.

Companion to the nationally-known Sheehan Press Conveyors. This Model 8D Forging Conveyor is equipped with a special high carbon Steel Woven-Mesh Belt, capable of conveying hot or cold forgings weighing up to 25 pounds with ease. Top of belt can be lowered down within 11 inches of floor to fit under hot or cold trim presses or in front of drop hammers and upsetters . . . saving working space and need for cumbersome chutes. Positive drive spike-studded pulley on head-end assures no belt slippage due to heat expansion while conveying hot forgings. Double strength construction throughout to withstand continuous heavy loads and excessive heat. Open bottom for cooling forgings.

The Two-Plane Model 8 or the Straight Model 5 are available in various sizes. Investigate the many construction and safety features that make Sheehan Forge and Press Conveyors outstanding in performance and economy!

SHEEHAN'S FORGING CONVEYORS ARE DIFFERENT . . .

Investigate Today!

R. T. SHEEHAN CO. PLYMOUTH, MICH.

If you write maker identify as IEN - 6339

For fast, accurate drilling at new low levels of investment and production costs

NEW WALKER-TURNER 15" Production DRILL PRESSES

Check these features: 1 One spot lubrication. 2 Ball Bearings give independent pulley mounting. Relieves spindle from all belt tension strain. 3 4-step pulley. 4 0" to 1/2" Jacobs Chuck on B33 taper. 5 Spindle mounted on 2 Ball Bearings. 6 One-piece head casting. 7 Six spline spindle.

GENERAL SPECIFICATIONS

SPINDLE TRAVEL: 4½" or 6". **FOUR SPEEDS:** 600, 1250, 2440 and 5000 R.P.M. with 1740 R.P.M. motor. **CAPACITY:** Bench Models — 12" chuck to table, 17½" chuck to base. Floor Models — 39½" chuck to table, 46" chuck to base. All models 7½" center of chuck to column. **CHUCK:** 6A Jacobs key type capacity 0 to ½". **TABLE:** 10" x 12¼" machined working area. **BASE:** 10" x 9" machined working area on Bench Models. 11" x 9" on Floor Models. **SPINDLE:** Six spline full floating type, ⅝" diameter, male B33 Jacobs taper for No. 6A Jacobs Chuck, or B1 Morse taper socket (optional). **PULLEY:** Straddle mounted on two ball bearings for extra rigidity. New upper mounting permits quick belt changing. **COLUMN:** Ground seamless steel tubing, 2½" in diameter.

72 different models. Drill heads adaptable to hundreds of diversified uses.

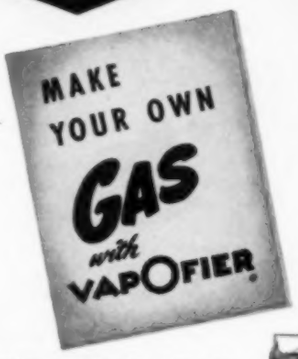
SOLD ONLY THROUGH AUTHORIZED DISTRIBUTORS

WALKER-TURNER
• DIVISION •
KEARNEY AND TRECKER CORPORATION
PLAINFIELD, N. J.

DRILL PRESSES • RADIAL DRILLS • TILTING ARBOR SAWS
BELT and DISC SURFACERS • METAL-CUTTING BAND SAWS
SPINDLE SHAPERS • JOINTERS

If you write maker identify as IEN - 6341

WRITE FOR THIS
FREE
BULLETIN



Vapofier—the Industrial Oil-Gas Generating Unit used for primary fuel source or as standby for natural gas.

VAPOFIER CORPORATION
10226 South Throop St., Chicago 43, Illinois

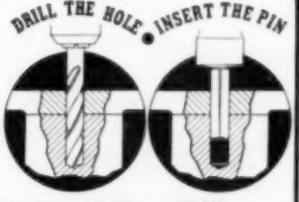
If you write maker identify as IEN - 6342

Speed Assemblies
WITH
GILLEN GROOVE PINS
WITHOUT
Threading • Tapering • Reaming

GILLEN GROOVE PINS
Cut Fastening Costs—Save Time

Simple, Fast, Sure! Just drill the hole, insert the pin. Three longitudinal grooves expand the pin. It re-forms to shape of hole when inserted. GILLEN GROOVE PINS hold tight; yet they remove without damage to holes. GILLEN PINS improve assembled appearance. Millions are used by industry to do a better job at lower cost. Investigate GILLEN GROOVE PINS for your production line.

Here's How Easy GILLEN GROOVE PINS Do It:



Put 'em together... FAST
Speed assembly time uniting fixed or moveable members. Five types of GILLEN PINS meet nearly every fastening requirement.

Keep 'em together... SECURE
GILLEN GROOVE PINS fit tight at every point of hole circumference, making safe, positive anchorage, not affected by vibration or shock.

Take 'em apart... EASY
For replacement or repair, simply tap out the GILLEN PIN; re-use it. B-1112 and C-1010 zinc plated steel used. Also available in other metals, or plated to specifications.

Start Saving Now...

Get them from GILLEN—SEND THIS COUPON
JOHN GILLEN COMPANY INC., CICERO 50, ILL.
Send sizes and prices on Gillen Groove Pins
Name
Company
City
State
Attach this to your letterhead

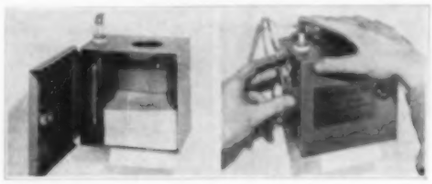
TRY FREE SAMPLE PINS
Specify approx. Diam. and Length Wanted

2546 S. 50th Ave. • Cicero 50, Illinois

If you write maker identify as IEN - 6344

CLEANING . . Spray liquid and tissues for goggles and glasses

Source: ALLEN OPTICAL CO.
83-87 Allen St., Buffalo 2, N. Y.



Safety directors like it

Steel cabinet measuring 6 by 4 by 6 in. is fitted with a hinged door and lock to enclose a spray dispenser, fog-proofing liquid and a supply of goggle-cleaning tissues. The cabinet is known as the Sani-Spray Station. Intended installation is in a plant area where goggles are required. Following application of the spray, the tissue is used to wipe off excess liquid and to polish the glass surface.

If you write maker identify as IEN - 6345

INSULATING . . Fiberglas segments with vapor barrier for pipe lines

Source: OWENS-CORNING FIBERGLAS CORP.
100 Nicholas Bldg., Toledo 1, Ohio

Details in Bulletin IN1.C3

Temperature from sub-zero to 250 deg. F. represents the range for application of the company's new Dual-Temperature pipe insulation in which Fiberglas is employed with a thermosetting binder to produce segments that apply on pipe measuring ½ in. or more. The segments are 3 ft. in length and are available in standard, 1½, 2 and 3-in. thicknesses. The vapor barrier is made of laminated Kraft paper and aluminum foil. An adhesive to seal longitudinal and traverse joints is available in 1 and 5-gal. cans.

If you write maker identify as IEN - 6346

SEALING . . Valve stem packing prevents stem corrosion in storage

Source: CRANE PACKING CO.
1815 Cuyler Ave., Chicago 13, Ill.

Specified sizes

Style 187 designates new die-formed braided-asbestos packing in which graphite is employed for lubricating purposes. A powdered metal short circuits electrolytic action tending to attack valve stems of 410 and 416 chrome steel while the valves are in storage prior to use in a pipe line.

The packing is suited for operation in temperatures to 850 deg. F. with pressure to 2,000 pounds. Section sizes are ¼ by ¼ in. and smaller and ¼ by $\frac{1}{16}$ in. or larger.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6347

Quality Wire
INSURES
QUALITY SPRINGS

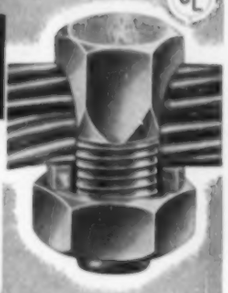
Whatever your spring wire requirements—consult with Seneca! Our production *geared to precision* in manufacturing oil tempered and hard drawn wire—round and flat—for all types of high grade mechanical springs. Seneca uniformity and dependability help the spring manufacturer produce high quality springs at low cost. Write . . . Seneca Wire & Mfg. Company, Fostoria, Ohio. Representatives in principal cities.

SENECA ROUND AND FLAT SPRING WIRE
WIRE & MFG. COMPANY • FOSTORIA, OHIO

If you write maker identify as IEN - 6348

Make
BETTER CONNECTIONS
with HIGH PRESSURE!

BLACKBURN
Hi-Strength
CONNECTORS



Avoid "loose joint" trouble and the cost of running it down; use BLACKBURN Hi-Strength Connectors! Tests show that they definitely produce higher pressure connections—trouble-free connections. It costs less to use the best—use BLACKBURN. UL Approved from No. 10 to 1,000,000 CM.

JASPER BLACKBURN CORPORATION
50 MADISON ST., ST. LOUIS 6, MO.
Phone CEntral 3007

If you write maker identify as IEN - 6349

"FLATWEAVE" SLINGS

Cut materials handling costs with Roebling "Flatweaves"

"FLATWEAVE" SLINGS are tops! Their broad, flat-bearing surface prolongs sling life. "Flatweaves" speed up operations because they're extra flexible, kink-resistant, and easy to handle.

Write for free copy of the "Roebling Sling Data Book." It gives the whole story about "Flatweaves", plus money-saving facts on the full Roebling line... a sling for top efficiency and economy on every job. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

If you write maker identify as IEN - 6350

Over 85% of the torque wrenches used in industry are
Sturtevant
TORQUE WRENCHES
Read by Sight, Sound or Feel

- Permanently Accurate
- Practically Indestructible
- Faster—Easier to use
- Automatic Release
- All Capacities

in inch ounces
...inch pounds
...foot pounds
(All sizes from 0-6000 ft. lbs.)

Every manufacturer, design and production man should have this valuable data. Sent upon request.

P. A. STURTEVANT CO.
ADDISON (QUALITY) ILLINOIS

If you write maker identify as IEN-6351

Saflex

FUSIBLE DISTRIBUTION PANELBOARDS

— they're Horsepower Rated

All circuits may be opened safely under maximum load—plus other important features

✓ Each circuit is in individual steel box readily removable and interchangeable with circuits of other ratings.

✓ Double break switch jaws on rotary blade holder can be turned to "OFF" and cover locked. Cam action handle supplies operating force necessary to high contact pressure. Positive pressure fuse clips minimize heating.

✓ Easy to install. Wiring gutters are oversize. Interior and trim are separate from box.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

If you write maker identify as IEN-6352

HANSEN

QUICK-CONNECTIVE STEAM COUPLINGS

WORKING PRESSURES TO 350 POUNDS

Sectional View of High Pressure Steam Coupling Showing Smooth Unrestricted Bore.

• Slight movement of sleeve instantly connects or disconnects couplings. Two types available—Low Pressure (1/4") for pressures up to 40 psi. ga. (saturated)—and High Pressure (1/4" and 1/2") for pressures up to 350 psi. ga. saturated and 3/4" for pressures to 250 psi. ga. saturated).

Easily repacked with formed graphite and asbestos packing. High Pressure Couplings designed for easy take-up while in service. Machined from solid brass bar stock.

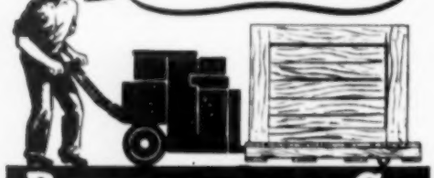
Also general purpose one-way shut-off, and two-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY

8021 WEST TYLER STREET • CLEVELAND 27, OHIO

If you write maker identify as IEN-6353

FREE! Revolvator's new Truck Index helps you pick size, capacity and type to suit your needs. Send coupon today.



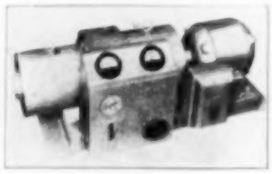
REVOLVATOR CO.

REVOLVATOR CO.
8859 Tonnele Ave., North Bergen, N. J.
Gentlemen:
We want to know, without obligation, all about Revolvator Go-Getter Pallet Type Liftrucks.
Name
Position
Company
Address

If you write maker identify as IEN-6354

GENERATOR . . Motor driven ac., normal ac. and battery dc. inputs

Source: BOGUE RAILWAY EQUIPMENT DIVISION
50-54 Iowa Ave., Paterson 3, N. J.



It keeps on running

Continuous supply of 120-volt ac. power with rating to 10 kw. is provided by this new motor-driven generator under normal conditions and also in the event of normal-line failure. No disturbance occurs in the ac. output at the instant of failure or the instant of resumption of normal operation. Thus the equipment is suited for duty as a power supply in telegraph and telephone installations, railway signal installations, radar, telemetering, radio, television and relay stations.

The ac. generator is coupled direct to an ac. motor on one side and to a dc. motor on the other. The ac. motor connects through the control to the normal power-input circuit. The dc. motor connects to a suitable storage battery. In the event of normal-circuit failure the drive switches from the ac. to the dc. motor before there is any opportunity to slow down. When normal current is resumed the ac. motor takes over and the dc. motors returns to duty as a generator to recharge the storage battery. An engine-driven generator can be added to an installation subject to power failure over extended periods of time to keep the standby battery fully charged.

If you write maker identify as IEN-6355

SPRAYING . . Fan pattern nozzle with extension and valve for hose line

Source: BETE FOG NOZZLE INC.
83-87 Pierce St., Greenfield, Mass.

Operating pressures 30 to 100 pounds

Spray discs are interchangeable in this new Type HX-5 nozzle to produce a variety of fan-type spray patterns for liquids to be employed in cleaning, washing, chemical application and for certain types of fire protection. The discs are made of stainless steel and are available for fan angles from 10 to 90 deg. with flow at 0.1 to 8 gpm.

The nozzle head assembles at the end of a 3-ft. aluminum tube that can be supplied straight or bent to a 30-deg. angle as illustrated. At the inlet end of the tube is a lever-operated valve, threaded to take a garden-type hose connector.

Identify as IEN-6356

Tenite plastic is supplied by Tennessee Eastman Company to a number of extruders who are converting it into lightweight pipe for use in the place of pipe made of steel, galvanized iron, copper, glass. It is tough, flexible, handles readily, has been proved in many installations in the past half-dozen years. Tennessee will name extruders who can supply you and advise on application for liquid and gas handling.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6357

MET-L-WOOD

METAL BONDED TO PLYWOOD

Has Hundreds of Structural Uses in Modern Plants

To Name a Few:

- Walls and Partitions
- Doors
- Counters and Shelves
- Traffic Panels
- Truck Bodies (Patented "Ribless" Construction)
- Truck Body Panels
- X-Ray Rooms
- Moisture-Vapor-Proof Rooms and Containers
- Decorative Finishes

Met-L-Wood stock panels and prefabricated units are a challenge to modern industrial engineers and designers because of their multiple possibilities in economical, structurally-sound designs in hundreds of varied uses. Best start toward thinking in terms of Met-L-Wood design opportunities is to send for the Bulletin described below . . . Met-L-Wood Engineering Service is available without obligation on specific problems.

SEND FOR THIS BULLETIN ON MET-L-WOOD USES AND ADVANTAGES

Quick facts, with illustrations and diagrams on Met-L-Wood applications, types, possibilities. Sent without obligation on request.

Met-L-Wood is metal bonded to plywood—permanently. Many metals, woods, thicknesses, shapes, finishes are available to meet YOUR requirements.

MET-L-WOOD CORPORATION
6755 West 65th Street • Chicago 38, Illinois
"Met-L-Wood . . . opening new horizons to structural designers"

If you write maker identify as IEN-6358

NEW . . . FREE

C-D-F Plastics Machining Notebook

Tells how to save time, money in fabricating laminates, fibre, mica, fabric-based plastics.

• If you fabricate plastics here's a vital new manual for you! Solves machining and forming problems, gives tool speeds and punch press data. Helps cut waste of material and time; simplifies ordering. Contains latest shop-tested information. Write for your free copy now!

C-D-F has sales engineers in principal cities.

Continental-Diamond Fibre Company
main office: NEWARK, DELAWARE, U.S.A.

If you write maker identify as IEN-6359

Towsley

INDUSTRIAL FLOOR TRUCKS

for Every Materials Handling Purpose

No. 421: The "50 Line" for department, food stores, supply houses, hotels.

No. 480: "Selector Truck" may be equipped with variety of upper trays, shelves for special application.

No. 509: All steel "All-Welded" general purpose, push handle both ends, adjustable shelves.

No. 791: Side dump with automatic couplers fore and aft for pulling in train.

No. 384: The "200 Line" level top general purpose truck — "All-Welded" steel frame—pipe push handles.

There's an economy-wise, manpower-wise way . . . with Towsley Trucks! If you have a specific handling problem requiring special purpose equipment, let "Towsley give you a lift." For details write for Bulletin No. 50.

No. 786: Trailer type box truck with running gear mounted for perfect trailing.

TOWSLEY TRUCKS, INC., 1756 Elmore St., Cincinnati 23, O

If you write maker identify as IEN-6360

GIVE YOUR PRODUCTION A Wayne LIFT

Cut Handling Costs . . . Speed Shipments . . . Step-Up Production

From loading platform to production line there's a Wayne Industrial Lift to save you time, labor and money. Wayne Lifts include tilting deck, ramps, sidewalk elevators, dock lifts, materials lifts, crossover bridges, truck service lifts and many others. Everyone is custom engineered to the particular needs of your plant.

Wayne Industrial Lifts are made to last for years without trouble . . . designed for easy servicing. Wayne Engineers are materials handling experts . . . skilled in designing Wayne Lift Systems for improved production in your plant. Write today for the new Wayne Booklet on Industrial Lifts.

LIFT DIVISION
IRONTON, OHIO

Wayne

THE WAYNE PUMP COMPANY
FAIRMONT, MARYLAND

If you write maker identify as IEN-6361

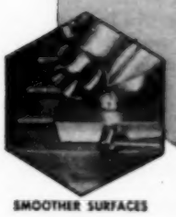
ALLEN HEAD
Flat Head
CAP SCREWS

- Maximum head contact
- Perfect Concentricity
- Threads Class 3 fit
- Burr-free threads and sockets

Allen FlatHead Cap Screws are heavy duty fasteners ideal for fastening thin plates, strips, mouldings and sheet metal parts by combining the advantages of maximum head contact, flush heads, and non-slip keying.

Standard in sizes from No. 4 to ½" diameter and from ¼" to 3" length, N.C. threads. Many sizes also standard in N.F. threads.

SOLD ONLY THROUGH LEADING INDUSTRIAL DISTRIBUTORS



SMOOTHER SURFACES

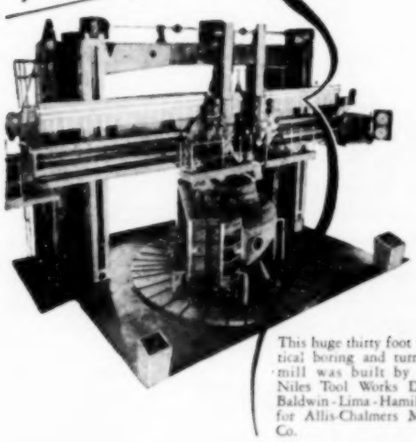
THE ALLEN MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.

If you write maker identify as IEN-6362

ELECTRIC FEEDRAIL®

Partial view of 79 pole, multiple conductor Feedrail trolley busway system that distributes current for power and control of this 30-ft. giant mill. Except for critical hand lever adjustments, all control is through buttons and selector switches located in remote dual console stations.

"Nerves" for a 30-ft. giant



This huge thirty foot vertical boring and turning mill was built by the Niles Tool Works Div., Baldwin-Lima-Hamilton for Allis-Chalmers Mfg. Co.

Giant thirty foot boring mills are not built every day. When they are, precision control is essential. A 79 pole multiple conductor Feedrail provides the "nerve system" for finger-tip control and dependable, unfailing power supply for this massive machine.

Every day Feedrail is solving power and control problems. Moving trolley outlets in an enclosed track roll with electric tools which must follow work. Power machines move in and out of work centers quickly, and produce more work in less time. Feedrail flexibility is engineered into standardized units that assemble to give a "tailored to fit" power supply system. Write for literature.

Sold by leading electrical distributors.

46-C

Never Becomes Obsolete
FEEDRAIL CORPORATION
125 BARCLAY STREET · NEW YORK 7, N. Y.

If you write maker identify as IEN-6364

SPRAYING . . Pneumatic nozzle mounts pipe connections at the side

Source: SPRAYING SYSTEMS CO.
3208 Randolph St., Bellwood, Ill.

Round, angle, flat patterns

New design in the company's line of pneumatic nozzles, previously described IEN-13080-51, mounts the two ⅛-in. pipe connections for liquid and air on the same side of the nozzle housing at 90 deg. with the direction of the spray. The unit is known as ¼-JACN when it is equipped with a shut-off needle. It is known as ¼-JAC without the needle. Overall length in the former case is about 3 in. in open position. Capacity and type of spray are determined by the assembly of air and fluid nozzles which thread in place on the body.

If you write maker identify as IEN-6368

HOSE FITTINGS . . Parts kit for repair of cutting and welding hose

Source: GAS ARC SUPPLY
221-25 N. 16th St., Philadelphia 2, Pa.

Fast fix is a new assembly of repair parts for ¼ or $\frac{5}{16}$-in. oxygen or acetylene hose to include nipples, nuts, barrels, double-end splicing nipples, threaded coupling sections and two hose-ferrule crimping tools. The metal box is compartmented and measures 11½ by 5¾ by 1¾ inches. Hose ends can be repaired and fitted. Two lengths of hose can be spliced permanently. Two sections can be coupled temporarily.

If you write maker identify as IEN-6366

VIBRATING . . Hydraulic clamp holds company's vibrator in position

Source: VIBRO-PLUS PRODUCTS INC.
54-13 Queens Blvd., Woodside 77, N. Y.

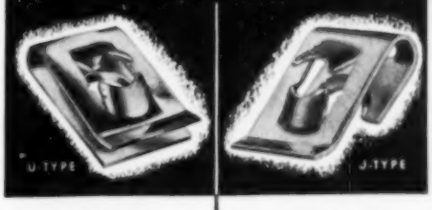
Applied on a hopper car

New assembly of the company's standard magnetic vibrators and a hand hydraulic clamp provides a means to position the vibrator on the side of a car hopper or a bin or storage tank handling bulk material or on a truck body to facilitate unloading flow of the material. The standard Type-ER Topdog vibrator delivers 3,600 impulses per min. on 60-cycle three-phase input. It is available for operation on 110 to 550 volts. The clamp positions the vibrator on any convenient flange, holds securely.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6367

Speed Nuts ... proved cost-savers on assembly lines throughout industry

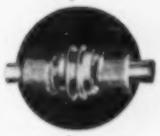


"U" and "J" Type SPEED NUTS are self-retaining; hold a constant hole alignment, and will not vibrate loose. They are made of highest quality spring steel in a wide variety of standard and special sizes. "U" and "J" Types are only two of thousands developed by Tinnerman Engineers to cut fastening costs. Ask your Tinnerman Representative, or write us direct for a FREE "Fastening Analysis."

TINNERMAN PRODUCTS, INC.
Dept. 13, Box 6688, Cleveland 1, Ohio

If you write maker identify as IEN-6368

This Large Machine Has a



Marshmallow-Light Touch

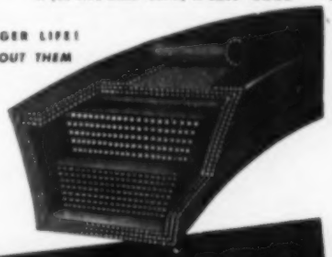
The Peters Marshmallow Depositor performs numerous light-touch, high-speed operations for the baking industry. It's hopper deposits marshmallow or jelly on base cakes, which are fed continuously. ROCKFORD Pullmore CLUTCHES control the power transmission. Let ROCKFORD clutch engineers help design power transmission control for your "light-touch" machines.

ROCKFORD CLUTCH DIVISION
1311 Catherine Street, Rockford, Illinois, U. S. A.

ROCKFORD CLUTCHES

If you write maker identify as IEN-6369

FOR LONGER LIFE!
—ASK ABOUT THEM



DODGE
SEALED-LIFE V-BELTS

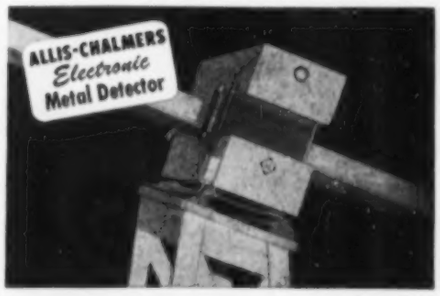
● The life is sealed in! Special cover protects tension members — insures *longer belt life*. Dodge Sealed-Life V-Belts are factory matched to TAPER-LOCK Sheaves for best performance. Stocked by Dodge Distributors. Write us for complete details.

DODGE MANUFACTURING CORPORATION, 608 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

FIRST IN POWER TRANSMISSION MACHINERY

If you write maker identify as IEN-6370



ARE YOU SURE IT'S PURE?

CAN YOU BE SURE no metal particles are getting into your packaged food? Magnets can't stop lead or brass or aluminum. The answer is, you *can't* be sure — without an Electronic Metal Detector. There's no other practical way!

Best of all, Allis-Chalmers Electronic Metal Detectors fit production set-ups. For example, conveyor belts from packaging machines can carry packages through the aperture of the detector at 15 to 600 fpm. Unit compares in upkeep and operating cost with a household radio. Latest design minimizes maintenance.

Call your nearby Allis-Chalmers Office for complete information, or write Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3711

ALLIS-CHALMERS A-C

If you write maker identify as IEN-6371

Can you reduce costs with a smaller bearing having the same capacity?

Many have — with substantial savings in money and materials. Smaller housings and surrounding machine members are often possible because of the greater load capacity Guideroll bearings carry in a smaller radial bearing space. Over 38% greater than the next highest rated bearing that is dimensionally interchangeable. Not to be overlooked also is the fact that precision performance, without roller skewing, of a Guideroll bearing is in direct proportion to its comparable load carrying capacity.

SCIENTIFIC ROLLER GUIDING

A guide rail on the inside diameter of the outer race maintains roller alignment. Normally, no correction is required. Should misalignment cause tendency to skew, the guide rail touches grooved rollers back into position by momentary contact. See inset on illustration.

Rollers Roll More Load

Write today for the new Catalog No. 52. McGill Manufacturing Co., Inc., 100 N. Lafayette St., Valparaiso, Indiana.

McGILL precision bearings

If you write maker identify as IEN-6372

Measure, Cut and Strip Insulated Wire

IN ONE SPEEDY OPERATION

ON ARTOS *Automatic* MACHINES

Does your production require cutting and stripping of insulated electric wire, cord, cable, etc.?

You can produce finished leads *much faster* . . . as many as 3000 per hour in 15-in. lengths . . . on this Artos Automatic Machine. Substantial time savings are obtained over the best manual or semi-automatic methods.

Operation is fully automatic—wire is taken from the reel, measured, cut to length and stripped at one or both ends. Unskilled help can handle the machine. Set-up is easy for different wire types and lengths.

MODEL CS-6E CAPACITY

FINISHED PIECES PER HOUR—From 3000 per hour up to 15 in. lengths to 500 per hour to 84-97 in. lengths.
MAXIMUM STRIPPING LENGTH—1½ in. at each end (greater stripped lengths are special).
MAXIMUM CUTTING LENGTH—97 in.
MINIMUM CUTTING LENGTH—2 in. (also as short as ¼ in. under certain conditions).
TYPES OF WIRE HANDLED—Solid or stranded single conductor wires, parallel cord, heater cord, service cord, etc.
MAXIMUM WIRE SIZE—No. 10 stranded or No. 12 solid.

Other Artos Machines

The complete line of Artos automatic wire cutting and stripping machines will handle cut lengths from 1 in. to 60 ft., stripped lengths to 6½ in. at one end and 8½ in. at the other, wire from No. 12 to No. 000 gauge, and up to 3600 pieces per hour. Ask for recommendations on your problems.

WRITE FOR BULLETIN

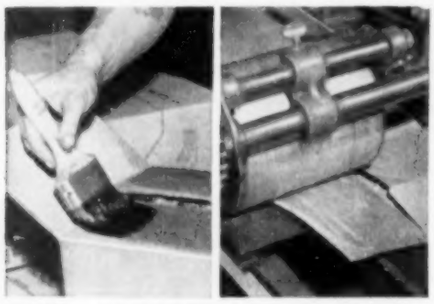
Get the complete story—write for Bulletin 35-C on Artos Model CS-6 machines.

Automatic Wire Cutting and Stripping

ARTOS ENGINEERING CO.

2749 S. 28th St. • Milwaukee 46, Wis.

If you write maker identify as IEN-6373



SEAL CASES IN 20 SECONDS

BOXEAL is the new *fast setting* shipping case glue which tears fibres 15 to 20 seconds after application by brush or machine. Brings new high speed and efficiency to all production lines where short pressure time is essential. Permanently seals all types of shipping boxes, corrugated, Fourdrinier kraft, jute, solid fibre.

Non-toxic, odorless, stainless, and most of all . . . FAST SEALING. Write today for free laboratory report and our generous trial offer.

Paisley ADHESIVE

DON'T WAIT. SEND FOR FREE ADHESIVE OPERATION DATA SHEET TODAY!

PAISLEY PRODUCTS INCORPORATED

Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 630 W. 53rd STREET, NEW YORK 19, N. Y.

If you write maker identify as IEN-6374

CUTTING . . Abrasive disc machine cuts gates and risers from castings

Source: DEWALT INC.
63 Fountain Ave., Lancaster, Pa.

Excellent for foundries

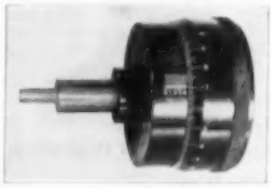
The company announces new design of its radial abrasive-disc cutting machine, previously described IEN-5514-42. The machine is driven by a 10-hp. enclosed motor with a geared head for operation at 2,400 rpm. It takes an abrasive disc to 18 in. in diameter. Average cutting time on a 4-in. cast-iron riser of a completed casting is about 30 seconds.

The motor is mounted on trunnion bearings in a fork riding ways on the under side of the machine's radial arm. This arm is sufficiently long so the motor can be brought forward to provide a 35-in. radius through a complete circle around the supporting column. With the motor in vertical position, as illustrated, the arm can be raised by turning a crank at the front end to provide maximum clearance of 15 in. between the disc and the table top. Maximum distance from table to center of the disc and spindle is 24 in. when the motor is positioned horizontally. Vertical movement on the supporting column is through 60 inches. Type ME-1 is the designation.

If you write maker identify as IEN-6375

GAGE . . Micrometer head to mount on precision equipment

Source: BOECKELER INSTRUMENT CO.
29-33 E. Rillito St., Tucson, Ariz.



For you to mount

Readings are directly in 0.1-in. divisions and by vernier to 0.000025 in. in this new head. It is equipped with a non-rotating spindle to take any type of anvil specified by the user. The lead screw is ground from solid hardened and normalized steel for overall accuracy within 0.000050 in. in pitch through its working range. Overall dimensions are 3⅝ in. in diameter over the black anodized aluminum barrel and thimble. Length is 5 in. with the spindle fully retracted.

Identify as IEN-6376

Shock absorbing ability of a new abaca-fiber pad compounded under pressure with Bakelite Vinylite resins has been demonstrated in application under railroad track tie-plates. The resin makes the pad impervious to attack by many elements. It prevents it from becoming brittle in cold weather or soft at elevated temperature. Results of an eight-year test indicate possible annual saving in track maintenance of about $450 per mile.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6377

PET TOOLS SUPERDUTY ELECTRIC DRILLS

For Industry's Specific Needs

Here's what SUPERDUTY means to YOU . . . . . .

Reserve Power for maximum performance in all duty classifications

Speeds to meet job requirements

Compact, Lightweight, Streamline Design for handling ease and minimum fatigue

Top-Quality, Rugged Construction for endurance and trouble-free performance

No Price Premium makes Superduty tools unmatched values

Superduty Drills Meet U. S. Government and Military Specifications

Ask your distributor for full details or write for general catalog to Portable Electric Tools, Inc., 353 West 83rd Street, Chicago 20, Illinois

In Canada: Portable Electric Tools, Ltd., 369 Danforth Rd., Toronto 13, Ontario.

18 MODELS ¼" Drills 500 to 5000 Rpm. Pistol or Saw Grip

2 MODELS ½" Drills 400 to 1000 Rpm

3 MODELS ½" Drills 500 to 600 Rpm.

If you write maker identify as IEN-6378

"GO AMERICAN" FOR CIRCULAR WELDED PRODUCTS

We make rings, bands, components and assemblies by either fusion or resistance welding of ferrous or non-ferrous metals. We believe that our quality is second to none and we know our products are reasonably priced. Many "Blue Chip" companies are our customers. Their products range from fractional horse-power motor shells to jet engine components.

SEND FOR YOUR COPY OF OUR 20 PAGE ILLUSTRATED CATALOG

THE AMERICAN WELDING & MANUFACTURING CO.
WARREN, OHIO

If you write maker identify as IEN-6379

HONESTLY NOW! — HAVE YOU EVER SEEN BETTER DRILL HEADS? CONSIDER THEIR PRICE! AND THEIR PERFORMANCE!

Two spindle head unit — one spindle fixed, the other spindle adjustable for the fixed positions.

Single eccentric type for equally spaced holes on bolt circles.

Universal joint with slip spindle fixed locating plate.

We manufacture all types of multiple spindle, fixed center, adjustable and individual lead screw tapping heads.

US HEADS

UNITED STATES DRILL HEAD CO.

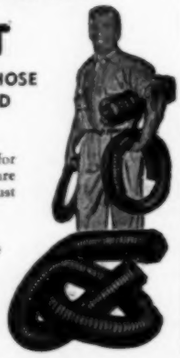
SINCE 1915 CINCINNATI 4, OHIO

If you write maker identify as IEN-6380

FOR VENTILATION
FUME AND DUST CONTROL
AIR CONDITIONING

FLEXAUST

SPIRAL-REINFORCED HOSE
LIGHT, STRONG AND VERY FLEXIBLE



Flexaust is of proved suitability for a wide variety of suction and pressure uses in ventilation, fume and dust control, air conditioning.

EXTREMELY EASY TO INSTALL — EFFICIENT AND ECONOMICAL IN USE

SIZES: 1¼" to 28" dia.

Various Flexaust types, accessories, and other hose types also available:

BLOFLEX
Non-reinforced
Collapsible hose

PORTVENT
Ring-reinforced
retractable hose

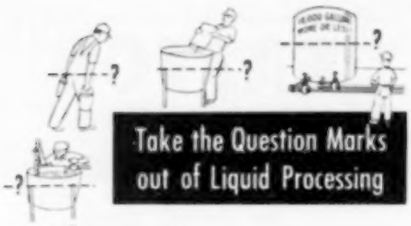
Write for full descriptive data and prices

AMERICAN VENTILATING HOSE CO.

Dept. IE-6, 100 Park Ave., New York 17, N. Y.

Plant: Amesbury, Mass.

If you write maker identify as IEN - 6381



Take the Question Marks out of Liquid Processing

WITH *Accurate* NEPTUNE METERS

Why use *wasteful* methods when accuracy is so easy? End spoiled batches, overfilling, spillage . . . eliminate slow weighing . . . with simple, dependable Neptune meters.

AUTOMATIC BATCH CONTROL: Ask to see the new Neptune "432" Auto-Stop—the meter that makes batch mixing *automatic*. It's just one of *many* Neptune liquid meters. For quick facts, ask for copy of Bulletin 566-JI.

NEPTUNE METERS for 100 Industrial Liquids

NEPTUNE METER COMPANY
50 West 50th St., New York 20, N. Y.
Branch Offices: ATLANTA • BOSTON • CHICAGO • DALLAS • DENVER • NO. KANSAS CITY, MO. • LOS ANGELES • LOUISVILLE • PHILADELPHIA • PORTLAND, ORE. • SAN FRANCISCO

If you write maker identify as IEN - 6382

Industrial Fabrics

Cottons, Nylons and other Synthetics

MADE TO GOVERNMENT SPECIFICATIONS

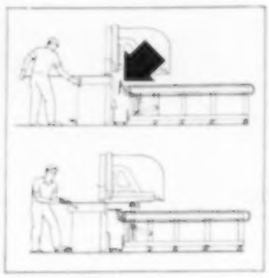
Reeves offers a wide range of fabrics adaptable to many industrial uses. If your industry has problems involving the use of fabrics, Reeves can help you solve them. Write or call now.

REEVES BROTHERS INC.
W. Harris Thurston Division
54 Worth Street, New York 13, N. Y.

If you write maker identify as IEN - 6384

HANDLING . . Tilting attachment dumps trim cuts at shearing machine

Source: FRIED STEEL EQUIPMENT MFG. CORP.
526-30 E. 119th St., New York 35, N. Y.



Clears scrap to container

Scrap Eliminator designates new attachment for application on the company's work-handling equipment for use at the rear of a shearing machine. The attachment applies on both the Stripveyor and the Liftveyor which take finished cut pieces as they are produced by the shear for delivery to a succeeding operation or to temporary storage. The attachment applies at the front edge of the handling unit as shown in the illustration.

The shear operator, standing in his position at the front of the machine, moves a lever to apply pressure in a pneumatic cylinder on the conveyor at the rear. This moves the cylinder piston to tilt the attachment and provide clearance space so the first trim cut taken on a sheet will drop into a scrap receiver. Then, by means of the lever, he moves the table back to horizontal position where it closes the gap between conveyor and machine so succeeding finished pieces will drop upon the conveyor and be carried away.

The attachment is available for the company's handling equipment now in service. It also can be supplied with new assemblies of Stripveyor or Liftveyor to apply behind shearing machines of specified dimensions.

If you write maker identify as IEN - 6385

METER . . Registers liquid flow in gallons, barrels, liters or pounds

Source: ROCKWELL MFG. CO.
402 N. Lexington Ave., Pittsburgh 8, Pa.

Mounts in 6 inch line

Rotocycle No. 6-BLX is a new rotary positive-displacement meter for use in bulk plants and on loading racks to measure liquids such as fuel and lubricating oils, certain chemicals, gasoline. The assembly can be specified with an aluminum housing that is non-corrosive when handling high-octane aviation gasoline. Such a unit weighs 207 lb. as compared to 400 lb. for cast iron or 417 lb. for cast steel. Intended operation is in continuous service at pressure to 125 lb. and flow rate to 650 gpm. Assembly can be made in a straight pipe line by employing two 45-deg. elbows.

Standard accessories include a strainer, air eliminator, registor extension, swivel adapter for remote registration, non-reset, small-reset, large-reset and ticket-printing register in specified unit quantities.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6386

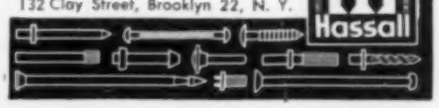
WRITE FOR FREE Hassall decimal-equivalent wall chart

In such popular demand (we've given away 50,000) — we've made it better. The new chart is far easier to read! In three colors to automatically signal decimal-equivalents of fractions. The special products which frame the chart are a constant reminder of a good source for cold-headed parts.

ESTABLISHED 1850

JOHN HASSALL, INC.
132 Clay Street, Brooklyn 22, N. Y.

Hassall



If you write maker identify as IEN - 6387

ILLINOIS GLOVES ARE BUILT TO LAST

THEY REALLY TAKE A BEATING . . . AND YOU CAN'T BEAT 'EM FOR CUTTING COSTS!

Need a glove to handle a rough job? Want a glove that's the finest quality for the price? Illinois' got it . . . the glove that battles its way through any job . . . stands up in contact with heat, oil, acids or water, and wears, and wears, and wears! They're tested in the lab and on the job to assure maximum service. Give Illinois Gloves a try . . . you won't make a better buy!

Write Industrial Division Illinois Glove Company for catalog & prices

ILLINOIS GLOVE CO., CHAMPAIGN, ILL.

If you write maker identify as IEN - 6388

WIDE SHEETS EASILY SLIT

Throat depths of 18, 24 and 36 inches make it easy to slit wide sheets on Steelweld Pivoted-Blade Shears. 24 inches is standard for all but the smallest machines. 36 inch throats can be provided for many of the larger machines.

This permits the slitting of plates of 36" to 72" wide down the middle for any length.

Steelweld Shears are loaded with exclusive features that speed production and cut costs.

There are no other shears like them.

CUTS METAL 1/8" TO 1 1/2"

Complete line machines available for shearing steel 6'-0" to 18'-0".

STEELWELD Pivoted-Blade SHEARS CATALOG No. 2011

Send for free copy of catalog No. 2011.

THE CLEVELAND CRANE & ENGINEERING CO.
4421 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

If you write maker identify as IEN - 6389

KOHLER PRECISION CONTROLS
Aircraft-Industrial-Automotive

Kohler Co. is a leading supplier of precision controls to manufacturers of jet engines, military, commercial and private aircraft, agricultural and industrial test equipment, Diesel engines, automobiles, trucks, and tractors.

Our engineers develop, for volume production, valves, fittings and kindred equipment to specification. Write for catalog.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

If you write maker identify as IEN - 6390

Now More Positive Protection than Ever Before

with the New FLEX-A-FOAM FILTER MASK

Newly designed for maximum comfort and efficiency, it's easier to breathe through and talk through than an ordinary pocket handkerchief . . . yet filters non-toxic dusts as small as 1/25000 of an inch!

- Extremely light in weight—just one ounce complete.
- Self-adjusting to every face size—no interference with eye glasses.
- Simple sturdy design—only four interlocking parts.
- Only respirator made with long-lasting washable filter—outwears throw-away type as much as 100 to 1.

Dust Protection your workers will welcome and Wear

Sample $1.40 postpaid

Write for new descriptive folder

FLEX-A-FOAM FILTER MASK

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

If you write maker identify as IEN - 6391

High quality doesn't always mean high price . . . not when it comes to ANDERSON STRAINERS. As a result of extremely careful designing and mass production methods, Anderson supplies you with a top quality, longer lasting strainer at a low price. Anderson strainers have an extremely rugged body and a very durable mesh screen. Save money. Ask your distributor today for Anderson Strainers.

Write for Strainer Bulletin 252

THE V. D. ANDERSON COMPANY
1931 West 96th Street • Cleveland 2, Ohio

Anderson STRAINERS

If you write maker identify as IEN - 6392

Tops in motor ruggedness!
CROCKER-WHEELER form BA

■ Put it on a machine tool, stoker, pump, compressor, or any other drive calling for a protected type motor. Mount it any way you like—NEMA D flange mounting, horizontal or vertical . . . NEMA C face mounting . . . drip-proof or splash-proof enclosures. Also equipped with the C-W brake where you want quick stops. An all-round tough motor, in NEMA frames 203 to 505, and rating beyond.

CW-35 *Write for the BA Bulletin.*

ELLIOTT COMPANY
General Offices & Main Plant Jeannette, Pa.

CROCKER-WHEELER DIVISION . . . AMPERE, N. J.
Branch Offices and Representatives in Principal Cities
Elliott Approved Service Shops Cover the Country

If you write maker identify as IEN - 6393

GRINDING . . Surface machine for jet engine blades and buckets

Source: EX-CELL-O CORP.
1202 Oakman Blvd., Detroit 32, Mich.

Operator selects feed rate

Work pieces are mounted in fixtures to suit individual blades or buckets and are positioned on a reciprocating work table in this new Style-84 grinding machine. Flat, grooved or curved surfaces are precisely ground in an automatic cycle on the roots of the blades and turbine buckets.

The grinding spindle is mounted horizontally and is adjustable end-wise to position preformed wheels in relation to the dresser which shapes the wheel to the desired form. A motor mounted on the machine base drives the spindle by means of V-belts.

The dresser is a cam-type diamond unit with motor drive the same as that employed on the company's Style-85 two-wheel form grinding machine. It is mounted above the wheel spindle. Dressing is part of the automatic cycle but the dresser also can be controlled manually when setting up a new wheel or adjusting the cam.

If you write maker identify as IEN - 6394

CONTROL . . Electronic instrument for liquid level, flow, also records

Source: MINNEAPOLIS-HONEYWELL REGULATOR CO.
4456 Wayne Ave., Philadelphia 44, Pa.

Holds to 0.5 per cent

An inductance coil identical with the one employed in the company's inductance-bridge transmitter has been added to the company's standard ElectronIK potentiometer. The instrument is then suited for indicating, recording and controlling variables in liquid level, flow, motion. Any difference in relative position between receiver and transmitter coils results in a signal to restore balance and cause the balancing motor to drive the pen and armature in the receiver.

Available also is a mechanism in the instrument to retransmit pneumatically to a remote receiver and an Indexet unit to reset the control index from a remote transmitter.

Identify as IEN - 6395

Rust-Oleum Corp., manufacturers of paint, recommend use of a long-nap lamb's-wool roller as the best answer to painting a wire fence. The roller is dipped into the material container, then is pulled up on a flat board, about the same width as the roller, to remove surplus paint. This is followed by application of the roller on the fence. Paint can even be rolled on barbed wire. Posts are completed with a brush.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6396

IT'S ALLIED FOR RCA
electron tubes for industry

Quick, Expert Service on all RCA special-purpose industrial tubes

ALLIED maintains in stock *for quick shipment*, the world's largest distributor inventory of RCA special-purpose tubes—*of all types*. We specialize in supplying the needs of industrial, broadcast, governmental and other users. To save time, effort and money—phone, wire or write to ALLIED for *quick* shipment. Fill *all* your needs from the *complete, dependable* electronic supply source.

ALL TYPES IN STOCK
- Vacuum Power
- Thyratrons
- Vacuum & Gas Rectifiers
- Ignitrons
- Cold-Cathode
- Phototubes
- Oscillograph Tubes
- Camera Tubes
- Monoscopes
- Special Types

FREE Interchangeability Directory

Valuable guide to selection of proper RCA tube type replacements. Lists 1400 tube types. Write for free RCA Guide No. 37-046

see your 1952 ALLIED catalog

Refer to your ALLIED Catalog for all electronic supplies—parts, tubes, test instruments, tools, audio amplifiers, accessories—available from the world's largest stocks. Write today for your FREE copy of the complete 212-page 1952 ALLIED Catalog.

ALLIED RADIO
833 W. Jackson Blvd., Dept. 14-F-2
Chicago 7, Ill.

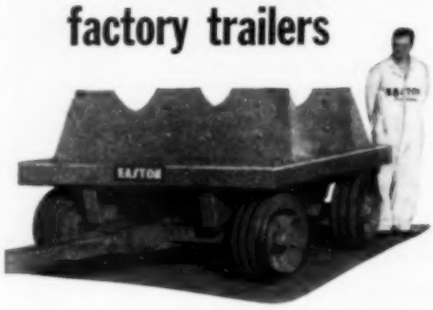
Everything in Electronics from ONE Source

If you write maker identify as IEN - 6397

A-1050

EASTON

heavy-duty dependability in yard and factory trailers



EASTON CAR & CONSTRUCTION CO. • EASTON, PA.
NEW YORK • PHILADELPHIA • PITTSBURGH

If you write maker identify as IEN - 6398

TIMING EQUIPMENT

CONTROLS VARIABLE DURATION OF A PROCESS CYCLE

This self-contained timer automatically starts or stops a process cycle after a predetermined lapse of time. It is available in four ranges maximum at 5, 15, 50 minutes, and 5 hours.

Two mechanism designs include Model 308-R to break the control circuit at the end of a timing period and Model 308-B to break one circuit and make another at the end of the period.

Contact rating is 500 watts at 110 or 220-volt ac. List price is $36 for Model 308-R, $40 for Model 308-B.

Construction includes a synchronous driving motor, magnetic clutch, interval-setting knob and dial, in a metal housing with black ripple finish. The housing is made with knock-out openings for wiring and is available with a glass-covered dial.

Bulletin 770 provides design and operating details and includes circuit diagrams

THE PARTLOW CORPORATION
4 CAMPION ROAD NEW HARTFORD, N. Y.

If you write maker identify as IEN - 6399

From shop hoist to truck hoist . . . in seconds!

NEW . . . BOOM EXTENSION ADDS 25% LOAD TRAVEL

UNIT "Utility" HOIST gives greater load travel plus three lifting points with capacities ranging from 1000 to 2000 lbs.

Hydraulically operated for shop, truck or machine, the Unit Hoist makes quick work of special handling operations. Setting pipe and water hydrants, working in manholes, reaching over obstructions are easy with the new 12" Boom Extension and optional Sheave Attachment.

PIN LOCKS HOIST IN SAFE WORKING POSITION

REDUCE material handling time. Unit gives you perfect load control plus portability. Portable floor frame permits moving to any job in the shop. Hoist when transferred to any truck equipped with wall swings 360° freely and locks in traveling position. *Write for Hoist Bulletin U-2.*

Floor Frame Model

THE BEST WHEN HANDLING:
Drums, Motors, Boxes & Crates, Transmissions, Pipe, Tires, Farm Machinery, Fishers, Hydrants

UNIT
Manufacturers of hydraulic cylinders for original equipment

UNIT MANUFACTURING CO.
1329 HARMON PLACE • MINNEAPOLIS 3, MINN.

If you write maker identify as IEN - 6400

NOW! AN APCO WRENCH for every spark plug in use!

FOR hundreds of jobs in the automotive and aircraft industries . . . for every manufacturer and user of gasoline-powered equipment . . . for shop repairmen, mechanics and plant maintenance crews . . . for original equipment tool kits.

FOR your convenience, Apco Mossberg Spark Plug Wrenches are made in the two *most-wanted, most-used* styles; the round, single-end type in 4 quick-fit sizes and hexagonal, double-end style providing 4 wrenches, 8 ends. Every wrench in the complete Apco Line is especially designed and precision made . . .

FOR easier handling . . . maximum durability . . . better on-the-job performance. Make quick work of *all* spark plug changes and adjustments . . . save time . . . save money!

Contact your distributor or write direct for complete information on these and other top quality Apco "Tools for Industry". Apco Mossberg Co., 171 Lamb Street, Attleboro, Mass., U. S. A.

APCO MOSSBERG CO.
LAMB STREET, ATTLEBORO, MASS.

If you write maker identify as IEN - 6401

For long-lasting protection

U.S. Security Friction Tape is a wall of safety —for both electrical and all-purpose jobs. A powerful grip . . . high-tensile and dielectric strength . . . no pinholes to cause dangerous leaks . . . straight-tearing, non-ravelling.

U. S. Security Rubber Tape is unbeatable for perfect splicing when used with U.S. Security Friction Tape.

Quality Products of

U.S. RUBBER SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
Tape Department, Rockefeller Center, New York 20, N. Y.

If you write maker identify as IEN - 6403

CONTROL . . Water mixing valve and thermostat to control temperature

Source: LAWLER AUTOMATIC CONTROLS INC.
303 W. 42nd St., Room 1208, New York 18, N. Y.

List price is $110

Type LTC is a new thermostatic water controller particularly designed for use in photographic equipment. It combines the action of a mixing valve taking water from hot and cold sources to deliver and maintain desired temperature of the water issuing from a tail pipe.

The control is made of chromium-plated brass with interior parts of the thermostatic valve of stainless steel. Temperature range on the dial-type thermometer mounted in the tail pipe is 40 to 140 deg. F. Overall height from the bottom of the tail pipe to top of dial is about 27 inches.

If you write maker identify as IEN - 6404

PLASTIC . . Laminated sheet for product use, 8 mils to ¼ inch

Source: INDUSTRIAL ORGANICS CORP.
59-33 54th St., Maspeth 78, N. Y.

For temperatures to 350 deg. F.

Iolyte trade names a new polyester laminated sheet material suited for fabrication into ducts, pipe, tube, tanks and for molding to various shapes. It can be specified with a filler made of Fiberglas cloth or mat, cotton cloth, Orlon, nylon or other synthetic fibers or cloth. It is characterized by low water absorption, good electrical properties. It is essentially shatterproof and scratchproof as well as resistant to attack by chemicals. It can be machined, nailed, formed, glued and is available in any color, translucent or opaque.

If you write maker identify as IEN - 6405

WEIGHING . . Triple beam balance includes tare poise for net readings

Source: OHAUS SCALE CORP.
1046 Commerce Ave., Union, N. J.

For laboratory use

An empty container can be balanced out in set up for a weighing operation by positioning the tare poise on its individual undivided beam on this new design of the company's weighing scale. Net readings of the content of the container can then be made direct. The scale has load capacity to 2,610 gm. with sensitivity of 0.1 gram. It employs the company's patented self-aligning bearings. It is available in metric, avoirdupois and troy standards with various types of weighing platform to meet requirements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 90

If you write maker identify as IEN - 6406

MAXWELL RECESS-O-MATIC

Fast set-up . . . repetitive accuracy . . . maximum capacity and throw . . . these features make the **RECESS-O-MATIC** tool superior for precision internal forming operations. Designed especially for use on multiple-spindle automatics, this tool can be attached quickly without need for special cams.

The **RECESS-O-MATIC** is available in three sizes having maximum capacities of 2, 3 and 4 inches. Recessing stroke ranges from ¼ to ½-inch.

Write for catalog. (Model DB)

THE MAXWELL COMPANY
380 BROADWAY • BEDFORD, OHIO

If you write maker identify as IEN - 6407

LISTEN TO YOUR COMPRESSOR

frequent running costs you money!

CHAMPION

aero-dynamic design . . .
cuts running time 6 ways!

Compressors that run too frequently cost you money! Excessive running causes excessive wear, raises electric costs by increasing consumption, and slows work through reduced pressure. Champion Air Compressors are Aero-Dynamically engineered to deliver cool air to the receiving tank in a minimum of running time. Get all the facts on Champion's Aero-Dynamic Compressor design.

this FREE MANUAL shows you how to select the proper air compressor. Write for your copy TODAY!

CHAMPION PNEUMATIC MACHINERY CO.
844 N. Pleasant Street — Princeton, Illinois

PRESSURE CLEANERS • AIR HOSE REELS • AIR ACCESSORIES

If you write maker identify as IEN - 6408

ROLLED STEEL PIPE FLANGES

for all types of service

18" I. D. TO 144" O. D. CARBON, ALLOY OR STAINLESS STEEL

Inquiries Invited
STANDARD STEEL WORKS DIVISION
BURNHAM, PA.

BALDWIN-LIMA-HAMILTON
General Offices: Philadelphia 42, Pa. Offices in Principal Cities

If you write maker identify as IEN - 6409

Use Ours—
let us do your rolling, stamping, finishing and assembling operations.

LARGE WORK CAPACITY means favorable delivery. 93,000 sq. ft. floor space . . . over 100 stamping, rolling and finishing machines . . . tool and die facilities.

SPECIALIZED SERVICE. Quality of Greene work reflects years of experience in both civilian and defense sub-contracting work.

QUOTATIONS WITHOUT OBLIGATION. Send blueprints, or write or phone for personal call. Inquiries promptly answered.

G-13a

Greene of Racine
GREENE Manufacturing Company, Inc., Racine, Wis.

If you write maker identify as IEN - 6410

CHASE

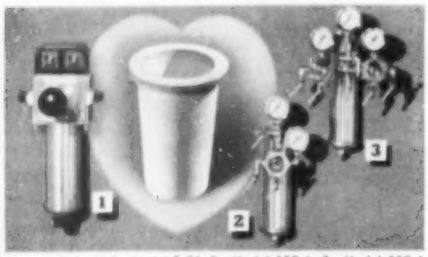
RED TYE Drawstring Bags

Fine quality cotton bags for mailing and storage of small parts and samples. Also twin mailers with envelope for letter and sturdy cotton bag for sample or part. There is a Red Tye parts bag, and mailing bag for just about every need. Write us today for information. Your inquiry will be given prompt attention.

CHASE 1842 BAGS

CHASE BAG CO.
General Sales Offices:
309 West Jackson Boulevard
Chicago 6, Ill.

If you write maker identify as IEN - 6411



Illustrated above: 1—Model E 75, 2—Model 538 A, 3—Model 539 A

BINKS OIL & WATER EXTRACTORS

a heart of metal for better spray finishes

The filter is literally the "heart" of an oil and water extractor. These Binks extractors have a unique *all metal* filter that traps oil, water and all other foreign particles larger than 1/1000 of an inch. Result: only clean, dry air reaches your spray gun... you prevent rejects due to finishing blemishes.

Send for Catalog-Data Book No. 955
It's a handy guide for selecting Binks extractors and other equipment.
Write: Binks Manufacturing Co.,
3120-34 West Carroll Ave., Chicago 12, Ill.

Binks
EVERYTHING FOR SPRAY PAINTING

If you write maker identify as IEN - 6412

FP-33 Versatile, easy to use, and inexpensive. 19 lbs. Two 6" brushes. 110 V. AC-DC.

FP-1 Heavy-duty floor maintenance. Scrubs, waxes, polishes, steel brushes. 210 RPM. 56 lbs. 110 V. AC (DC extra). Also available—the FP-2 with 13" spread.

FP-11 Fast, compact, light, multi-purpose 300 RPM. 33 lbs. Converts to hand polisher. 11" brush. 110 V. AC-DC.

FP-3 4-in-1 floor conditioner. Reconditions, waxes, polishes, scrubs. 180 RPM. 110 lbs. 17" brush spread. 110 V. AC.

Write for RED DEVIL Catalog 21M

Products of Red Devil Tools. 129 COIT ST. IRVINGTON 11, N. J. U. S. A.

For Your Special Information

ALL MAKERS ARE LISTED — IEN S-16

Unprecedented flow of orders subscribing to the current issue of Thomas' Register has exhausted the print order. The last available copy of the 1952 edition was sold in April. Requests have gone out to selected advertisers owning copies to find if they will sell them back to us for reassignment. We suggest that you place your 1953 order now if you want assurance that you will have the complete product-source reference books next year.

In the mean time we offer our assistance in looking up sources for specific things that you want to name, by reference to our office copy. We answer several hundred such requests each month. Keep us in mind when you run into a source problem that you find difficult to solve.

OUR COMPETITIVE SYSTEM — IEN S-17

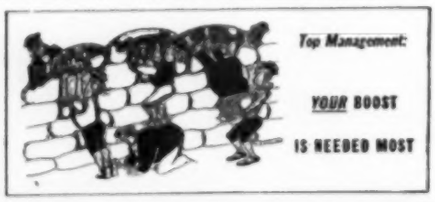
"Not for Sale" titles another advertisement in the program being conducted by National Business Publications under the slogan Progress-For-People. We quote—"Competition, not regimentation, is what eggs a man on to do his best. Competition, not government control, is what urges a business to give its customers ever greater value for their money. So let's say, 'No Sale' to the 'isms' peddlers who would have us swap our USA system of free competition for their 'planned' regimentation and trade our USA freedom and plenty for their serfdom and poverty."

3,000,000 TON EVERY MONTH — IEN S-18

Sustained action in scrap collection for the mills will do far more than a once-in-a-while drive. Some scrap from your plant every month is what the mills need most to make up that 3,000,000 ton monthly requirement. Appoint a scrap master if you have none now and give him sustained backing.

U. S. SAVINGS BONDS — IEN S-19

We quote Reese H. Taylor, President, Union Oil Company of California, "Our country's strength is created by the responsibility and solidarity of individual citizens in a self-chosen government and economy. The men and women who invest regularly in United States Savings Bonds are contributing to our national integrity and to the traditions of personal independence so characteristic of a free people."



If you write maker identify as IEN - 6413

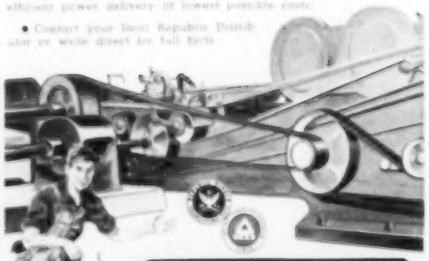
NOW EVEN MORE POWER
EVEN LESS COST with
REPUBLIC TRANSMISSION BELTING

• Get that added power for increased production with Republic Rubber's flexible, pre-stretched Transmission Belting.

Built with heavy, hard-woven, rubber-impregnated fabrics, with square or sealed edges and non-slip friction surfaces, Republic Belts are adaptable for duty on heavy industrial drives subject to shocks and stresses and on drives operating at high speeds over small pulleys.

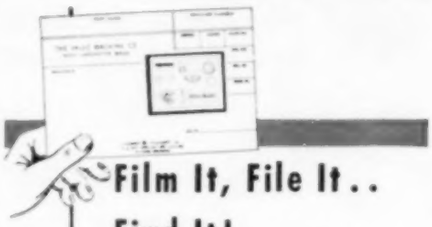
Republic Transmission Belts are free from broken trouble. They're **pre-tested** under job conditions to assure most efficient power delivery at lowest possible costs.

• Contact your local Republic Distributor or write direct for full facts.



INDUSTRIAL RUBBER PRODUCTS BY
REPUBLIC RUBBER DIVISION
Lee Rubber & Tire Corporation
YOUNGSTOWN, OHIO

If you write maker identify as IEN - 6414



Film It, File It.. Find It!

Have you found out how to increase the capacity of your engineering drawing vault at no additional cost?

The answer is Filmsort. This tested and proven microfilm method pays for itself in space and filing equipment saved.

Filmsort gives you a security microfilm copy plus a working copy of each drawing by inserting the individual microfilm frame in a Filmsort card.

More than a million and a half drawings are in Filmsort cards now. Why not add yours? Send for free literature.

FILMSORT Individualizes Microfilm!

... It's in the cards

FILMSORT INC.
DEPT. I . PEARL RIVER
NEW YORK

If you write maker identify as IEN - 6415

ORANGEVILLE HAND TRUCKS

"Keeps Loads Alive"

Illustrated are a few of the many hand trucks we make for factory and warehouse use. They are typical of a wide range of available types and sizes which we can furnish in two-wheel and four-wheel designs. We also build special trucks to order to meet unusual handling needs.

Write for Catalog 50

FLOOR TRUCKS ORANGEVILLE

ORANGEVILLE MFG. CO.
ORANGEVILLE 15, PA.
Established 1879

If you write maker identify as IEN - 6416

USES: Perfect for hardware, auto parts, screw machine parts, etc.

DIMENSIONS: (Inside) 28⅛" long, 8⅛" wide, 4⅛" deep, or 12⅛" long, 4⅝" wide, 11¼" deep. All ⅝" seasoned pine. Toggle fastened lid—no nailing necessary. Cleated ends and lid.

PRICE: 50,000 available, at 85¢ ea., F.O.B. LaPorte, Ind.

CALL, WIRE or WRITE

VECO P.O. Box 298-A Phone 5-4281
BENTON HARBOR, MICHIGAN

If you write maker identify as IEN - 6417

EASY-WELDING

THE PROBLEM METALS

ALUMINUM

STAINLESS STEELS

NICKEL ALLOYS

Here's the story of Heliwelding — Airco's inert-gas arc-welding process. Its special characteristics — freedom from oxidation — pin-point heat concentration — give it a definite role in the family of arc welding methods.

When you're faced with welding thin sections of the problem metals — stainless steel, aluminum, brass, copper, everdur, nickel, inconel, or monel, it will pay to know all about Airco's Heliwelding Process.

To get your copy of Catalog 9, Heliwelding, just write in today on your letterhead: Address: Advertising Department, Air Reduction Sales Company, 60 East 42nd Street, New York 17, N. Y.

AT THE FRONTIERS OF PROGRESS YOU'LL FIND

AIR REDUCTION

AIR REDUCTION SALES COMPANY • AIR REDUCTION MAGNOLIA COMPANY
AIR REDUCTION PACIFIC COMPANY
REPRESENTED INTERNATIONALLY BY AIRCO INTERNATIONAL
Divisions of Air Reduction Company, Incorporated
Dealers and Offices in Principal Cities

If you write maker identify as IEN - 6418

IT'S PACKED WITH SATISFACTION WHEN IT'S PACKED WITH R/M

Whatever your packing problem . . . gaskets for a Freon condenser like this one . . . or packings for service against high pressures, high temperatures, chemicals, refrigerants, petroleum, milk or other special fluids . . . Raybestos-Manhattan has a packing or gasket designed for the job. Check your R/M Packing Catalog, or call your nearby R/M distributor.

R/M PACKINGS

RAYBESTOS-MANHATTAN, INC.
PACKING DIVISION, MANHEIM, PA.

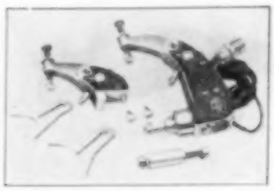
FACTORIES: Bridgeport, Conn.; Manheim, Pa.; No. Charleston, S.C.; Crawfordsville, Ind.; Passaic, N.J.; Peterborough, Ontario, Canada

RAYBESTOS-MANHATTAN, INC. Manufacturers of Mechanical Packings Asbestos Textiles • Industrial Rubber Products • Abrasive and Diamond Wheels • Rubber Covered Equipment • Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Sintered Metal Products • Bowling Balls

If you write maker identify as IEN - 6420

GAGE . . Electronic comparator reads over and under master dimension

Source: BROWN & SHARPE MFG. CO.
235 Promenade St., Providence 1, R. I.



Details in Bulletin 955

Electronic Caliper No. 955 designates new gaging head, a further development of the company's Series 950 electronic comparator equipment, previously described IEN-1598-48. The new unit makes it possible to gage work for "over" and "under" variation from a master setting with the work in place in a machine, in a fixture or on a bench.

The head connects electrically to the previously-developed No. 950 indicating amplifier to read to 0.001 over or under a zero setting in 0.0001 in. divisions. A selector dial on the amplifier face can be turned to read 0.0001 in. on either side of zero in 0.00001 in. divisions. Magnification from 1,800 to 18,000 provides graduations measuring $\frac{3}{32}$ in. in width for the finest setting.

The caliper is made with interchangeable upper heads for four ranges, each 1 in. in extent to a maximum of 4 inches. This upper head is equipped with an adjustable measuring point that can be set to a master in its 1-in. range. It is fitted with a flat contact point that is interchangeable with a spherically-surfaced point that also is supplied. Both of these points, and the one on the gaging anvil, are faced with tungsten carbide.

The caliper body itself has a dull chrome and aluminum finish and is faced with knurled plastic insulation pads to assist in handling and to minimize the effect of heat from the hands. The connecting electrical lead is 7 ft. in length and carries a plug to fit into the amplifier at its outer end.

An adjustable pin in the interchangeable jaw can be positioned to center the caliper on work of a given size. Plate-type aligning fingers and a stud also fit into the jaw at either the right or left-hand side to center the caliper on long work. Measuring pressure is adjustable from 1 to 5 pounds. It is factory set at $1\frac{1}{2}$ pounds. A complete set with interchangeable jaws for the overall range in four steps to 4 in. lists at $350. It is known as No. 956. A No. 950 amplifier adds $330.

If you write maker identify as IEN - 6421

PROTECTING . . Ear covers to exclude flying sparks and chips

Source: KIMBALL SAFETY PRODUCTS CO.
9306-10 Wade Park Ave., Cleveland 6, Ohio

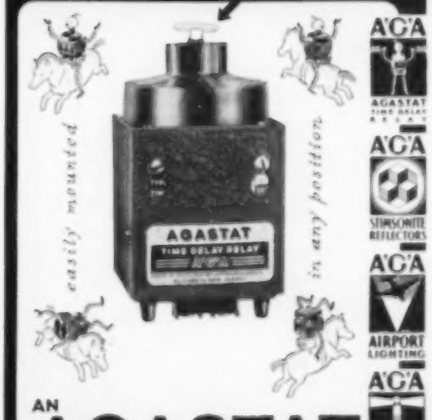
Ear Protector designates a new fine-wire-mesh ear cover with a soft plastic rim to apply on the head band of a goggle or helmet so flying sparks, chips, dirt cannot enter a worker's ears. The unit is light weight, comfortable and does not shut off ventilation or interfere with hearing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6422

simple adjustment!

special adjusting disc available

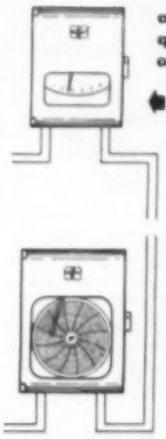


AN **AGASTAT** TIME DELAY RELAY for every requirement

A'G'A DIVISION OF ELASTIC STOP NUT CORPORATION OF AMERICA
1027 NEWARK AVE., ELIZABETH 3 NEW JERSEY

If you write maker identify as IEN - 6423

How to Shorten Distances in a Plant



and improve production and quality by remote measurement and control

MEASURE HERE

Bristol Metameter* telemetering transmitter at a remote location measures pressure, flow, level, temperature, voltage, current or power.

TRANSMIT ANY DISTANCE

— a few feet or many miles — by telephone circuits, private wires, carrier-current channels, radio (including microwave).

RECORD HERE

Bristol Metameter telemetering receiver at central point, records or indicates measurement made by the transmitter.

BRISTOL

Write us for Bulletin M1700. THE BRISTOL COMPANY, 107 Bristol Road, Waterbury 20, Conn.

*Reg. U. S. Pat. Off.

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

If you write maker identify as IEN - 6424

MOTOR CONTROLS ...via Graybar

Strongbox magnet coil shuts out dust, moisture, oil . . . takes abuse in stride

Strongbox magnet coil construction is an important feature of the General Electric full voltage magnetic starter for A-C motors up to 50 horsepower. Firmly locked in a block of molded plastic, windings are completely protected, completely encased. Solventless varnish holds them in place — makes a perfect bond. Extremely resistant to vibration and abuse, the Strongbox coil is the strongest you've ever seen.

Maintenance and installation of Graybar-distributed G-E controls is quick and easy. Inspection, change, and modification of contacts, coils, and magnets are all simple screwdriver-only operations. Plenty of conduit knock-outs and terminals speed installations.

The complete line of G-E motor controls is available through your local Graybar office — check with them for complete price and application information. *Graybar Electric Co., Inc. Executive Offices: Graybar Building, New York 17, N. Y.*

249-126

Call Graybar *first* for . . . Everything Electrical — Graybar

If you write maker identify as IEN - 6425

140-A Series. Structural Steel Swivel Caster equipped with Roller Bearing Semi-Steel Wheels—made to handle heavy loads.

There's one that's Right for You!...

Bond built-for-the-job **CASTERS**

Light or heavy loads, rough or smooth floors, long or short hauls, sharp or easy turns—these are typical service conditions that Bond Casters match with ease. And because there are many different types made from standardized components, you save money every time you choose Bond Casters for your jobs.

Write for your free copy of the Bond Catalog K-38.

V-Grooved Wheel Caster equipped with Roller Bearing Semi-Steel Wheels—designed especially for track line assembly.

BOND FOUNDRY & MACHINE CO.
Manheim, Penna.

161-A Series. Structural Steel Rigid Caster equipped with Roller Bearing Semi-Steel Wheels—companion stationary caster to the 140-A Series.

If you write maker identify as IEN - 6426

you can get in FAFNIR Ball Bearings this small

• For extremely small shafts in instruments, home appliances, cameras and projectors, fractional-h.p. motors, Fafnir makes several series of extra small ball bearings . . . in metric bore sizes down to 4 mm and in inch sizes down to 1/8". Available with standard, special or super-precision tolerances. Three constructions . . . filling slot, non-filling or spring type retainers. Can be fitted with grease shields, felt seals, Mechani-Seals or Plya-Seals. If you want top performance on a small shaft — Fafnir has the answer. Write for new Instrument Bearing Catalog. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR
BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

If you write maker identify as IEN - 6427

Ask Pop or any other experienced shop foreman. He'll tell you the plant couldn't run without that dependable source of supply—the industrial distributor. Who else has the tools, machines, parts, supplies, accessories you need, conveniently near and ready for fast shipment?

Your industrial distributor relieves you of a lot of headaches. He takes over the time-consuming work involved in scattered direct-buying contacts. He expedites purchase orders and deliveries. He knows about a wider range of tools for industry than any one manufacturer can know. And he's ready to share his broad knowledge toward solving production problems and keeping your men abreast of mechanical improvements and new techniques.

Take files: He stocks a big assortment of regular and special types, cuts and sizes. And he's a big help in picking *The right file for the job*, whether for exacting or mass-production work.

Marketing through distributors is a policy that has made Nicholson files and Nicholson quality available to industrial life users from coast to coast.

NICHOLSON FILE CO. • 33 Acorn St., Providence 1, R. I.
(In Canada: Port Hope, Ont.)

NICHOLSON
A FILE FOR EVERY PURPOSE

If you write maker identify as IEN - 6428

...IN THE PRODUCTS YOU BUILD

Manufacturers equip your products with the finest floats available—*Stainless Steel Floats* from Chicago Float Works. Your product can have no better assurance of long trouble-free float performance. You get all of the plus values of *Stainless Steel* along with Chicago Float Work's more than thirty years of specialized experience in engineering and building floats for industry.

....check these features

CORROSION RESISTANCE. *Stainless Steel* stands up better under severe services in many different kinds of corrosive fluids.

EXTREME STRENGTH. Will withstand pressures up 1000 lbs. Temperatures to 800° F.

LIGHTER. Less weight affords more buoyancy making for more positive float action.

COMPLETE LINE. Diameters 3 to 10 in. Special sizes to order — standard or special float connections. Write for catalog giving sizes, shapes, spud connections, and complete engineering data.

CHICAGO FLOAT WORKS, INC.
2326 S. Western Ave., Chicago 8, Illinois

If you write maker identify as IEN - 6429

GAGE . . Dial indicator unit for bores from 0.250 to 0.375 inch

Source: STANDARD GAGE CO.
55 Parker Ave., Poughkeepsie, N. Y.

Overall gage range is 0.250 to 16 inches

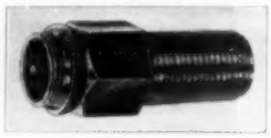
No. 00 is a new unit in the company's line of dial-indicator bore gages employing interchangeable centering size discs. The disc attaches to the head of the instrument where it is locked by means of a knurled nut. It is made a few thousandths of an inch smaller than the bore to be gaged and can be quickly interchanged when applying the gage on various sizes of work.

The gage is entered at an angle to allow its extended plunger to clear the bore. Then it is rocked to cause the plunger to pass a square position while the minimum reading is noted on the indicator. The plunger actuating the indicator is sapphire tipped. The centering size discs are chromium plated. The indicator is protected against accidental shock.

If you write maker identify as IEN - 6430

COUNTING . . Impulse generator actuated by passage of magnetic body

Source: ELECTRO PRODUCTS LABORATORIES INC.
4504-8 N. Ravenswood Ave., Chicago 40, Ill.



No physical contact

An electric impulse that can be amplified and employed to count revolutions, recurring operations, sequence, cycles or motions, at rates as high as 20,000 per sec., is generated by this new Model-3010 magnetic pick-up. The impulse is proportional in output voltage to the rate of motion or speed of the magnetic body employed as the actuating element. This can be the keyway in a shaft, the teeth in a gear, the spokes in a wheel, a slot in the rim of a wheel or shaft, a screw head or pin on a moving part.

The unit applies so the actuator element passes through its magnetic field. Assembly is in a stainless-steel body fitted to take an Amphenol Type-80C1 connector. Overall length is 2 inches. Diameter is 5/8 inch. Weight is about 2 ounces.

Identify as IEN - 6431

Handy Panels is the name for a new set of small stock sizes of plywood panel particularly intended for use in making all sorts of things for sale and for plant use. Sizes range from 20 by 44 in. to 24 by 48 inches. Thickness and finish are the same varieties as the regular plywood sizes for use both indoors and outside.

Douglas Fir Plywood Association told us about them and sent us a list of representative uses. They will send the list to you also, if you wish. It starts with Advertising Stands and winds up with Wastebaskets. We hope it is not symbolic.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6432

Preferred for All General Overhead Work

Ezebilt
MAINTENANCE SCAFFOLDING

For simpler, more economical scaffolding specify Universal "Ezebilt"—"Up Faster, No Bolts to Master." The basic scaffold parts, with casters, can form a rolling maintenance tower with elevated platform work level, passageway and work clearance. Send for catalog of simple erection.

RENT OR BUY

Distributors throughout the country offer fast help and service from basic stocks — Sale or Rental.

UNIVERSAL MANUFACTURING CORP.
970 NORTH ST., ZELIENOPLE, PA.

If you write maker identify as IEN - 6433

THE INDUSTRIAL POCKETSCOPE BY WATERMAN

The Model S-11-A Industrial & Television POCKETSCOPE is a small, compact, lightweight instrument for observation of repetitive electrical circuit phenomena. The Industrial & Television POCKETSCOPE is a complete Cathode Ray Oscilloscope incorporating the Cathode Ray Tube, vertical, horizontal, and intensity amplifiers, linear time base oscillator, blanking, synchronization means and self-contained power supply. This Industrial & Television POCKETSCOPE uses the new 3" Cathode Ray Tube especially developed for this lightweight and compact instrument. The Industrial & Television POCKETSCOPE can be used, not only for AC measurements, but for DC as well, inasmuch as it has vertical and horizontal amplifiers which are capable of reproducing faithfully, within —2 db, from 0 to 200 KC.

Vertical and horizontal channels: 0.1v rms/inch with response within —2DB from DC to 200 KC. Repetitive time base continuously variable from 3CPS to 50KC with positive sync, intensity modulation either through Amplifier or direct. Blanking of return trace is optional. Trace expansion is at least twice screen face. Line voltage variations, variation of input impedances, or manipulations of controls do not bounce trace off screen. The Scope stabilizes immediately.

WATERMAN PRODUCTS CO., INC.
PHILADELPHIA 25, PA.
CABLE ADDRESS: POKETSCOPE

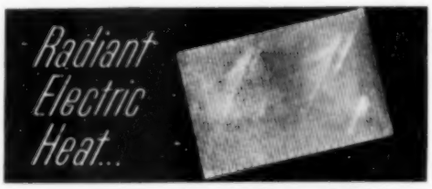
WATERMAN PRODUCTS INCLUDE:

S-4-A	SAR	PULSESCOPE
S-5-A	LAS	PULSESCOPE
S-10-B	GENERAL	POCKETSCOPE
S-14-A	HIGH GAIN	POCKETSCOPE
S-14-B	WIDE BAND	POCKETSCOPE
S-15-A	TWIN TUBE	POCKETSCOPE

Also RAKSCOPES, LINEAR AMPLIFIERS, RAYONIC TUBES and other equipment

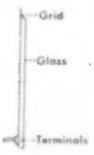
WATERMAN PRODUCTS

If you write maker identify as IEN - 6434



from Glass Plates for use in production or product

CROSS SECTION



Smokeless, dustless electrical heat, radiated uniformly from a strong, tempered glass panel. Secret: A paper-thin aluminum grid fused to the back.

Think of the places in your production process or in your product itself where heating or drying can be done more easily, more safely, more economically with this remarkable new unit. Interested? Send today for our technical folder. Write Dept. IEN-6.

RA-GRID HEATER PLATES
- **9 Standard Sizes:** from 6 x 14" to 16 x 28".
- **Thickness:** ¼". *Heat:* up to 300° F.
- **Voltage:** 230 max. for 16 x 24" plates.
- **Connections:** Two terminals.

RA-GRID HEATER PLATES
• BLUE RIDGE GLASS CORPORATION • KINGSPORT, TENN.

If you write maker identify as IEN - 6435

MARK THE LINE OF SAFETY

In Plant Warehouse Parking Lot

PAINT TRAFFIC LINES and guide lines fast with the Mark-Rite Liner on concrete, black top or brick surfaces. Economical one-man operation. Gravity feed. Requires no air pressure. Is easy to clean. Thousands in use.

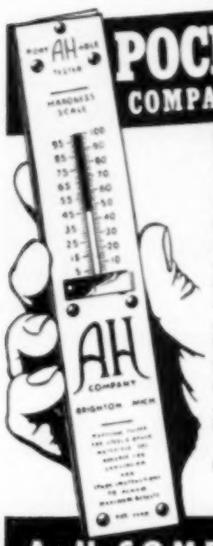
Mark-Rite power spray models are available in either self propelled or push type. All Mark-Rite Liners are fully guaranteed. Write for literature. Dept. M-1.

ORDER YOURS TODAY
ONLY $94.50
F. O. B. LOS ANGELES

UNIVERSAL MFG. & SALES COMPANY
8706 S. Santa Fe Ave., South Gate, Cal.

Mark-Rite LINE MARKERS

If you write maker identify as IEN - 6436



POCKET-SIZE COMPARATOR TESTER

A compact, low cost precision tester which will fill a dozen needs in your plant.
Easily carried anywhere and used on-the-job by anyone.
Gives accurate surface elasticity readings, easily converted to Rockwell or Brinnell.
Hundreds in daily use in all types of industry. A trial tester will prove its value.

PRICE $25.50 Plus Tax Including case
F. O. B. BRIGHTON, MICH.

A-H COMPANY, INC.
225 E. Grand River, Brighton, Mich.

If you write maker identify as IEN - 6437

Fitted for Every Job Need

DIPPED NEOPRENE INDUSTRIAL GLOVES

SAFE—They can help prevent costly accidents. The rough-surface fingers assure positive, easy gripping. And Neoprene withstands gasolines, oils, greases and corrosive chemicals.

COMFORTABLE—The curved finger construction conforms to the natural curve of hand—eliminates straining and pulling. Highly flexible, they permit easy, natural working motions.

ECONOMICAL—They are built for long wear and tough service. Full range of sizes, lengths and weights. U. S. technical men will be glad to analyze your glove needs and recommend the correct glove for each of your jobs. Available from your nearest United States Rubber Company Branch.

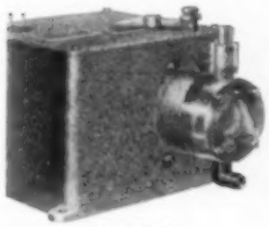
U. S. INDUSTRIAL GLOVES

UNITED STATES RUBBER COMPANY

If you write maker identify as IEN - 6439

FEEDING . . Diaphragm pump designed to meter chemical solutions

Source: PRECISION MACHINE CO.
3-7 Union Square, Dept. IE, Somerville 43, Mass.



List is $185

Model S is a new positive-displacement diaphragm pump in which a small motor, operating on 110-volt 60-cycle ac., drives an eccentric. The resulting diaphragm action pumps solution from a container and injects it into a main water line as in feeding sodium or calcium-hypochlorite solution for water treatment. Parts that contact the corrosive solution are chemically-resistant plastic or rubber. The pumping chamber is a transparent-plastic head. The diaphragm and poppet valves are molded from a chemically-resistant synthetic rubber. Plastic tubing connects the unit to the solution source and to the point of delivery.

With operation at 36 rpm. the pump will handle 60 gal. in 24 hours on maximum output and is adjustable to a minimum of 5 gal. in the same period of time. Maximum delivery pressure is 125 pounds. Overall dimensions are 8½ by 9½ by 6½ inches. The motor and gearing are oil immersed in the aluminum housing. Assembly weight is 14 pounds.

If you write maker identify as IEN - 6440

DRYING . . Rotating tray machine takes liquid out of process material

Source: WYSSMONT CO.
31-04V Northern Blvd., Long Island City 1, N. Y.

Wet in, dry out

New size known as Series N has been added to the company's line of Turbo-Dryers, previously described IEN-3644-51. Evaporative capacity of the new equipment is 50 lb. of water per hr. at 100 deg. F. for the smallest unit to 750 lb. per hr. at 300 deg. F. for the largest one. Power input ranges from 1½ to 2 hp. Housing diameter is 9½ feet. Height, directly proportional to the number of shelves, ranges from about 8 to 12 feet. The equipment will handle fragile or heat-sensitive materials from thick slurries to fine powders.

Material to be dried is fed through an opening in the top and spread on the top revolving shelf as it moves under the feed opening. The material so spread is plowed off the first revolving shelf to fall upon the shelf below either into a pile to be leveled off or into a hopper from which the material is spread out again in a layer. This action is repeated as the material moves down from shelf to shelf in a gentle transfer action to exit near the bottom. External heating elements and centrally mounted centrifugal blowers draw the air in, pass it through the dryer and then exhaust it.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6441

To YOU, Anti-Corrosive's 25th Anniversary is an assurance that the oldest, largest and best known firm dealing exclusively in stainless steel fastenings is best suited to serve your needs in this field.

Still Plenty of Fastenings IN STOCK
For quick delivery of stainless steel fastenings, check Anti-Corrosive first, since there are many stock items and alternates on hand!

FREE - A - N Fastening Selector !
Write for Slide Chart No. 52T — instantly identifies A-N Nos. pertaining to stainless fastenings, gives sizes, other data. Catalog available.

Anti-Corrosive Metal Products Co. Inc. 1927 – 1952
Manufacturers of STAINLESS STEEL FASTENINGS
GASTETTON ON HUDSON, NEW YORK

If you write maker identify as IEN - 6442

LOW COST

Electronic AIR FILTRATION

The Electro-PL is a unique dry-type, electronic air filter. Designed to provide intermediate air cleaning efficiency with maximum economy, it is now widely used for industrial, commercial and military installations. These total more than 5,000,000 cfm. The Electro-PL is dual-purpose . . . may be operated as either a dry-type air filter or with the electronic feature as seasonal conditions vary. Available in standard units for straight or "V" bank arrangements to meet almost any air volume requirements. For complete details write for Engineering Bulletin No. 257.

American Air Filter COMPANY, INC.
335 Central Avenue, Louisville 8, Ky.
In Canada: Darling Bros., Ltd., Montreal, P. Q.

If you write maker identify as IEN - 6443

Thor ANNOUNCES A NEW AIR IMPACT WRENCH
With Exclusive Rolling Ball Type Cam!

3/8" Bolt Size Capacity. "No. 24"

New cam design permits drawing threaded fasteners down faster and tighter BEFORE IMPACTING—the spindle is speeded and fewer impact blows are required for final tightening.

Coupled with a large overload capacity, the new type wrenches are only moderately slowed in performing work within their rated capacity, resulting in greatly increased normal working life.

INDEPENDENT PNEUMATIC TOOL COMPANY
AURORA, ILLINOIS

Thor PORTABLE POWER TOOLS
ELECTRIC • PNEUMATIC

If you write maker identify as IEN - 6444

GET THIS VALUABLE INFORMATION NOW!

All users of Resin Adhesives *need* this new Paisley Resin Adhesive Bulletin No. 25. It will give you practical, *usable* information never before available to Resin Adhesive users! Valuable technical aspects are explained in language any layman can understand. No cost or obligation is involved. *Use your letterhead please.* Just ask for Bulletin No. 25. Or, if you have a Gluing or Adhesive problem, ask for an Adhesive Operation Data Sheet. (You fill in and return for Laboratory recommendation.)

PAISLEY PRODUCTS INCORPORATED DIVISION OF MORNINGSTAR, NICOL, INC.
1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 630 W. 51st ST., NEW YORK 19, N.Y.
Manufacturers of Glues • Pastes • Resin Adhesives • Cements and Related Chemical Products

If you write maker identify as IEN - 6445

How many material handling jobs are you still doing the hard way? How many precious man hours, dollars and minutes are you spending to move materials from here to there?

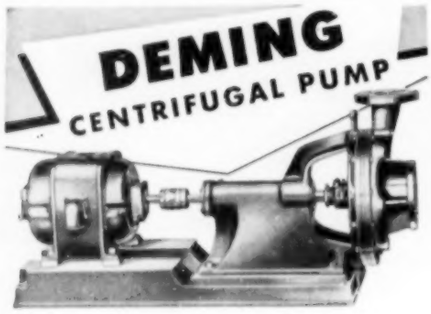
Whether it's bags, boxes, barrels, bales or bulk . . . whether it's unloading, loading, transporting, lifting or lowering, chances are that a Lippmann Conveyor or combination of them will show substantial savings in time, men and money.

Lippmann is headquarters for all kinds of conveyors, and 28 years of manufacturing and application experience. Lippmann engineers are ready and eager to help you solve your material handling problems. A card or letter will bring prompt and sincere attention to your regular or special requirements.

LIPPMANN ENGINEERING WORKS

4633 W. Mitchell St., Milwaukee 14, Wisconsin

If you write maker identify as IEN - 6446



● Designed with separate liquid end to permit economical use of special alloys on parts coming into contact with corrosive liquids. This saves you money on first cost and upkeep cost. Built in full range of capacities from 10 to 3600 G.P.M. in sizes 1" to 10" discharge. Can be furnished for either the standard electric motor drive (as illustrated) or for gasoline engine or belt drive. Write for BULLETIN 4012-A.

THE DEMING CO.
521 BROADWAY
SALEM • OHIO

If you write maker identify as IEN - 6447

● Alligator V-Belt Fasteners and open-end (long length) V-belting in rolls will enable you to make up multiple V-belt drives for a wide variety of applications.

Available for B, C and D sizes of V-belting.

Not to be used for repairing endless cord V-belts.

Bulletin V-211 will give you complete details. A copy mailed on request.

Order from your supply house

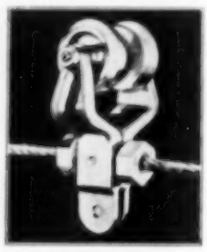
FLEXIBLE STEEL LACING COMPANY
4610 Lexington Street, Chicago 44, Illinois

Also sole manufacturers of Alligator Steel Belt Lacing for flat conveyor and transmission belts and SLEXCO Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

If you write maker identify as IEN - 6448

CONVEYING . . Overhead cable design operates on track in closed circuit

Source: DAIGLE-CABOURY INC.
20173-77 John R, Detroit 3, Mich.



Handles heavy loads

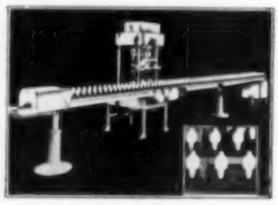
Steel trolleys are spaced at regular intervals along a $\frac{3}{8}$-in. wire rope to travel on an overhead beam in a closed circuit in this new conveying equipment. The forged-steel trolley brackets are split and apply in connection with a split sleeve and split nuts so the trolleys can be placed on the rope at any point without requiring access to a rope end. Return track runs are made with grooved pocketed wheels into which the trolleys and the wire rope fit for uninterrupted movement from one track end around to enter another.

A complete trolley weighs a little over 6 pounds. The wire rope weighs a little over $\frac{1}{2}$ lb. per running foot and has an ultimate yield strength of 29,000 pounds. All components of the new equipment are designed to meet standard specifications of conveyors now employing a No. 458 chain so the new equipment can be applied interchangeably.

If you write maker identify as IEN - 6449

PACKAGING . . Filling machine cradles containers on conveyor belt

Source: MRM CO.
189-93 Barry St., Brooklyn 11, N. Y.



Each container is centered

New machine has been developed by the company to fill liquids automatically into containers that will not stand up. An example is the new polyethylene bottle for spray deodorants. The machine will fill 175 of these units per minute. Cradles spaced along the conveyors hold the containers in place while they are being filled, capped and dated. The operator places the empty containers and removes them as they return to the adjacent unloading position. The machine itself is an automatic twelve-spout unit of gravity type. Vacuum operation can be specified.

identify as IEN - 6450

Empire Steel Castings paid $450 for a little piece of radioactive cobalt wire mounted in a circular holder a couple of inches in diameter. The company mounts it on an arm above a casting suspected of internal flaws and puts a photographic film below the casting. The image produced on the film at the end of a one-half to six-hour exposure tells the story. Thickness capacity is to 6 inches of steel. The equivalent radium for the job would have cost $10,000.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6451

WITH A COLUMBIA

TONG TEST AMMETER

There is no other instrument like a Tong Test—it measures both A.C. and D.C. Readings are made instantly and accurately.

These outstanding features are yours when you use a Tong Test Ammeter:

- No breaking of circuit
- Operated with one hand
- Safe and convenient to operate
- Five types to accommodate cables up to 3⅞", bus bars up to 4½" x ½"
- Light weight—low price
- Scale ranges up to 1000 Amperes
- Voltage attachment available

Write for Tong Test Bulletin IQ-400

COLUMBIA ELECTRIC MFG. CO.
4519 Hamilton Ave., Cleveland 14, Ohio

If you write maker identify as IEN - 6452

DARNELL CASTERS

Free Manual

Always SWIVEL and ROLL

DARNELL CORP. LTD.
Long Beach 4, Calif.

60 Walker St., New York 13, N. Y.
36 N. Clinton, Chicago 6, Ill.

If you write maker identify as IEN - 6453

America's first and finest
CROZIER TOOL POST TURRET

now with 12 position indexing

12 position indexing now makes possible the alignment with work at any thirty degree increment.

This is only one of the outstanding features developed by the first and largest manufacturer of turrets for small lathes. Other features include built-in cut-off tool and holder and positive rapid indexing. All wearing parts are hardened and precision fit. They are available in three sizes.

Switch to Crozier Tool Post Turrets today. Save as much as 75% set-up and down time in lathe operations. In Crozier, you have America's precision-built tool post turret. Write for catalog.

CROZIER MACHINE TOOL CO. Dept. IEN-5

Hawthorne, California

If you write maker identify as IEN - 6454

ROWE ADJUST-A-DOCKS
Eliminate Costly Hand Loading

1. Brings dock to level of any truck bed.
2. Speeds loading by fork and lift truck directly into carriers.
3. Eliminates dock hazards.
4. Floats at truck level.
5. Sturdy hydraulic finger-tip control.
6. Pays for itself in 30 days.

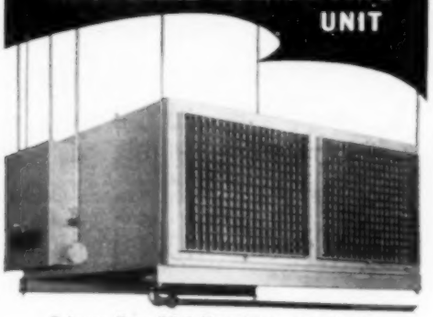
ADJUST-A-DOCK

LOOK into the SAVINGS you can make in freight handling with Rowe Adjust-A-Docks. WRITE FOR BULLETIN and complete information.

ROWE METHODS, INC.
2534-H DETROIT AVENUE • CLEVELAND 13, OHIO

If you write maker identify as IEN - 6455

INDUSTRIAL HUMIDIFYING UNIT

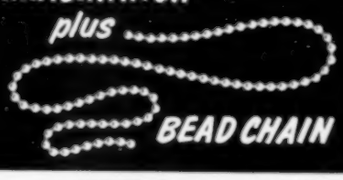


Bahnson Type BA-2 Humidifier — completely self contained, including fans, motors, humidifiers, 4-way adjustable grilles, and automatic humidity control. Requires only power supply line, water supply and drain lines for installation. Eliminators remove excess free moisture. Delivers approximately 4000 CFM and evaporates up to 10 GPH.

The Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

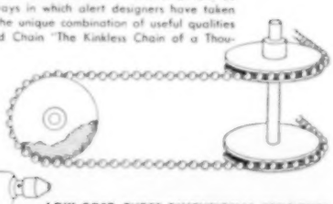
If you write maker identify as IEN - 6456

IMAGINATION plus BEAD CHAIN



means BETTER PRODUCTS

WHAT OTHERS HAVE DONE: Here are a few of the scores of ways in which alert designers have taken advantage of the unique combination of useful qualities that make Bead Chain "The Kinkless Chain of a Thousand Uses".



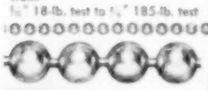
LOW-COST, THREE DIMENSIONAL SPROCKET DRIVE Made possible by non-kinking, free-swiveling action of each bead. Slippage is absolutely prevented as each bead fits into an individual pocket. Bead Chain drives have been proved on many products such as business machines, television tuners, venetian blinds, etc.

RETAINER FOR STRAYING PARTS Saves time at plant or at home by keeping straying parts at hand. Adds value and sales appeal for pennies.

CONNECTOR FOR SAMPLES For fabrics, paint, plastics, etc. Convenient, non-kinking, attractive, strong.

It will pay you to think how Bead Chain could help improve your product. As the world's largest manufacturer of Bead Chain, we offer the "know-how" acquired in applying Bead Chain to meet the requirements of thousands of uses. Call on us.

Bead Chain is available in many metals and finishes, and in five sizes, from:
1/8" 18-lb. test to 1/4" 185-lb. test



New! Bead Chain Catalog-Data Folder. Write today!

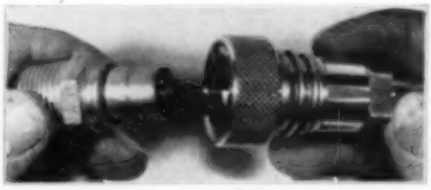
BEAD CHAIN®

The Bead Chain Manufacturing Co.,
59 Mt. Grove Street, Bridgeport, Connecticut.

If you write maker identify as IEN - 6458

PIPE FITTING . . Self-seal coupling closes on quick line disconnection

Source: E. B. WIGGINS OIL TOOL CO.
3422-26 E. Olympic Blvd., Los Angeles 22, Calif.



Engagement opens flow line

New design in the interior of the company's Series P-1000 coupling, previously described IEN-9506-49, has resulted in reduction of pressure drop through the coupling and has improved the sealing action. As in the previous design, a sleeve is drawn back against spring action to release locking fingers that engage a holding ring so the two coupling halves can be pulled apart. The coupling seals itself on the socket side in standard design. It can be specified to seal on both sides so there will be no loss of liquid in either direction.

Sizes range from 1/4 to 1 inch. Operation can be maintained satisfactorily in a temperature range between minus 65 and plus 250 deg. F. Standard material is aluminum. Brass, carbon steel or stainless steel can be specified. Holding capacity is from 30 in. of vacuum to 200 lb. pressure.

If you write maker identify as IEN - 6459

PACKAGING . . Liquid dispenser for delivery into pipettes and vials

Source: SCIENTIFIC GLASS APPARATUS CO.
1000 Lakewood Terrace, Bloomfield, N. J.

List is $182

Filamatic trade names the company's recently improved liquid dispenser. It delivers measured amounts of chemicals, serums, antitoxins, biologicals into pipettes and vials. Delivery rate is 10 to 90 units per minute. Quantity range is adjustable between 0.025 and 50 cc. The machine is driven by a 1/50th hp. back-geared motor with Thyratron speed control for operation on 110-volt 60-cycle ac. Housing dimensions are 8 by 11 by 16 inches.

The motor drives a crank with an adjustable throw to which is attached the plunger portion of a glass syringe. The plunger faces upward, operates inside the syringe barrel which is secured to an upper head free to oscillate on a supporting arm. This arm can be adjusted up or down on the housing to take syringes of various capacities. Sufficient adjustment is provided at the crank for the full range of a given syringe size.

Fluid is drawn in through a tube connection at the upper head and issues to a tube connecting above the inlet. Delivery is through a tip-drip tip for insertion by the operator into the unit that is to be filled.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN - 6460

SAVE YOUR OIL, MONEY AND MACHINERY WITH HILCO LUBRICATING AND INDUSTRIAL OIL MAINTENANCE EQUIPMENT - - -

A COMPLETE LINE OF EQUIPMENT FOR RECLAIMING, FILTERING, PURIFYING AND RE-REFINING OIL

★ Hilco units are available for continuous or batch operation. You can keep your lubricating and industrial oils clean and recover large quantities of oil at low cost.

Whenever Oil is used it becomes contaminated — must be discarded or conditioned for further use

There Is a **HILCO** to do This Job for You

Cleans Oil, Reduces Down Time, Increases Production!

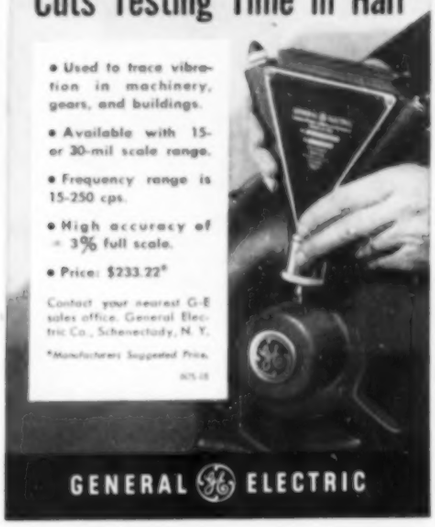
★ Tell Us About Equipment You Are Operating and We Will Forward FREE Literature and recommendations.

OIL PURIFIER DIVISION
THE HILLIARD CORP.
35 W. 4th ST. • ELMIRA, N. Y.

IN CANADA — Upton-Bradeen-James, Ltd.
950 Bay St., Toronto. 3464 Peel Av., Montreal

If you write maker identify as IEN - 6461

G-E Lightbeam Vibrometer Cuts Testing Time in Half



- Used to trace vibration in machinery, gears, and buildings.
- Available with 15- or 30-mil scale range.
- Frequency range is 15-250 cps.
- High accuracy of ± 3% full scale.
- Price: $233.22*

Contact your nearest G-E sales office. General Electric Co., Schenectady, N. Y.

*Manufacturers Suggested Price.

GENERAL ELECTRIC

If you write maker identify as IEN - 6462

THE BEST KNOWN NAME IN

BOSS WORK GLOVES

There's a perfect Boss Glove for *every* job

WHITE CANTON FLANNEL GLOVES
DOUBLE PALM GLOVES
HOT MILL GLOVES & MITTENS
LEATHER PALM GLOVES
JERSEY GLOVES & MITTENS
ALL-LEATHER GLOVES

MUNKEPACE 665
A BOSS head-liner. Complete range of styles shown in catalog.

ASK YOUR DISTRIBUTOR or send for free copy of complete catalog and new "WORK GLOVE SELECTOR." The quick and easy way to find exactly the right glove for every job. Also see "Thomas' Register," 1952 Edition.

THE BOSS MANUFACTURING CO., DEPT. IE-6, KEWANEE, ILL.

If you write maker identify as IEN - 6463

PLATECOILS (REPLACE PIPE COILS) save 5 ways

used as original equipment
in DAUER Bonderite Washers

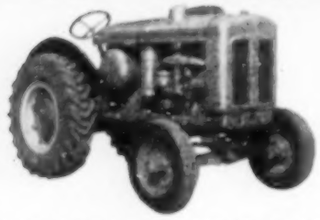
1. Lower first cost
2. Simplified and less costly installation
3. Take less space in tank
4. Higher heat transfer rate
5. No pipe joints in solution

Send for complete technical manual and descriptive Bulletin No. P86.

PLATECOIL
KOLD-HOLD MFG. CO.
LANSING 1, MICHIGAN

If you write maker identify as IEN - 6464

Pneumatractor



The Schramm Model 105 Pneumatractor is a self-propelled tractor-compressor combination that fills many requirements, and will . .

- **PUSH . . . .** Anything a Wheel Tractor will Push
- **PULL . . . .** Anything a Wheel Tractor will Pull
- **POWER . . .** Anything a Wheel Tractor will Power
- **PROVIDE AIR . . .** For Every Compressed Air Job

Write for Bulletin NEU-51

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

If you write maker identify as IEN - 6465

4-WAY SOLENOID OPERATED AIR-VALVE only $32.50

For Fast Operation of Cylinders up to 3" Diameter

Compact sturdy construction, precision engineered for long, uninterrupted heavy duty operation.

Has small, well protected solenoid—operates small cylinders up to 3" dia. and larger cylinders where unusual speeds are not required.

Quantity and O.E.M. discounts. Write for description, discounts, etc.

IMMEDIATE DELIVERY

3-WAY VALVE Same Design **only $19.80**

AUTOMATIC VALVE CO.
37419 GRAND RIVER AVE., FARMINGTON, MICH.

If you write maker identify as IEN - 6466

SPOT HEAT WHERE MEN WORK . . . with MECHANIZED GAS UNIT HEATING

Install REZNOR WORLD'S LARGEST-SELLING Automatic GAS UNIT HEATER

Reznor unit heaters need only gas and electric supply plus flue exhaust arrangement for complete automatic operation. You can provide heat in winter and circulated air in summer to give employees the comfort they need to produce more efficiently. Because each unit produces and distributes heat where and when you want it, and installs so easily, you have flexibility to follow shop rearrangement with low-cost heating arrangement. For modern heating of new construction, expansion or remodeling specify Reznor unit heating. Reznors install economically in any size area.

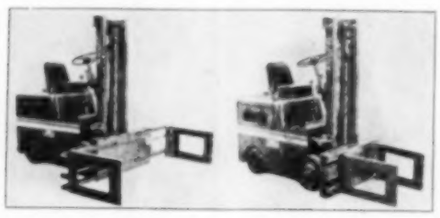
REZNOR MANUFACTURING CO.
10 UNION ST. - MERCER, PENNA.
Send me 20-page catalog in full color

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

If you write maker identify as IEN - 6467

TRUCK . . Clamp attachment to handle bales, boxes with lift truck

Source: CLARK EQUIPMENT CO. Battle Creek 49, Mich.



Grips laterally to lift and carry

Maximum spread in this recently improved bale-handling clamp attachment is 69 inches. Overall width of the assembly, with the clamping arms drawn in, is 40 in. as in the original design. The clamp operates hydraulically with pressure applied by the operator in a 2¼ in. cylinder when he operates a control at his driving position. The slide construction telescopes in manner similar to the operation of the upright members on the company's fork lift truck.

If you write maker identify as IEN - 6468

TESTING . . Instrument assembly to check performance of diesel engines

Source: KENT-MOORE ORGANIZATION INC. 5-107 General Motors Bldg., Detroit 2, Mich.

List is about $156

No. J-4209-41 is a new kit assembly of gages and instruments to check compression, timing, exhaust back pressure, engine speed, blower-intake restriction, air box, oil, fuel and crankcase pressure, cylinder-liner position on Series-71 and Series 6-110 General Motors diesel engines. The instruments are assembled in a metal box with the required accessories. Pressure gages rate to 15 and to 100 pounds. The tachometer reads to a maximum speed of 3,000 rpm.

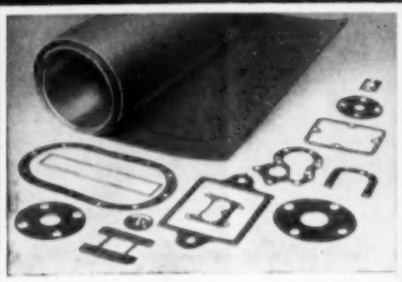
Identify as IEN - 6469

Close control of vapor level in an electrically-heated vapor-degreasing tank can be obtained by two Fenwal Thermoswitch thermostats. Mount one at the desired vapor level and set it for 170 deg. Mount the other just above the heating elements and set it for 225 deg. F. Both should be normally closed. Rising vapor level will open one. Increasing element temperature will open the other.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6470

MELRATH GASKETS



GRAPHITED COMPRESSED ASBESTOS SHEET PACKING and GASKETS

MELRATH No. 125 . . . a high quality long fiber material resistant to acids, oils, steam, chemicals, etc. Proven for over 30 years.

There's a Melrath Gasket for Every Purpose!

MELRATH SUPPLY & GASKET CO., INC.
3501 MEMPHIS ST., PHILADELPHIA 34, PA.

If you write maker identify as IEN - 6471

DESIGNING A NEW PRODUCT? send for *free booklet* with "How-to-use" data on MASONITE PRESDWOOD

Here's help for harassed industrial designers. Fact-filled, illustrated booklet tells how and where Masonite Presdwood® adds strength, durability and sales appeal to products in scores of fields. These strong, grainless, all-wood hardboard panels are 28 ways better . . . you can even bend them permanently. Comes in 39 types and thicknesses. Send for your copy of "A Guide for Product Designers" today. No obligation, naturally.

MASONITE CORPORATION DEPT. IEN-6, BOX 777, CHICAGO 90, ILL.

"Masonite" signifies that Masonite Corporation is the source of the product

BETTER HARDBOARDS FOR BETTER PRODUCTS

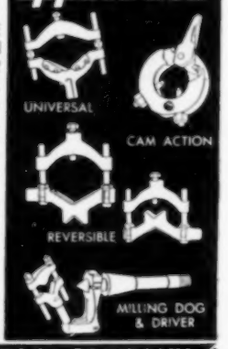
If you write maker identify as IEN - 6472

RED-E

GRINDER-MILLING MACHINE DOGS

for EVERY application

● Special exclusive RED-E features mean unmatched versatility for ***GREATER SAVINGS*** in time, labor, money. Quick change-overs, simple installation, finger-tip control, perfect balance, accuracy and ***adjustability*** assure greater economy, micro-precision and stepped-up production that you can't afford to pass up!



Complete range of sizes!
Send for the RED-E Bulletin, now!
GRINDER DOG *Specialists Since 1908*

RED-E TOOLS **READY TOOL COMPANY**
544 Ironstan Ave. Bridgeport 5, Conn.

If you write maker identify as IEN - 6473

E & G COMPOUND BASE

where precision means business!

6" lateral and 4" transverse continuous micrometer motion, with ZEROING dial reading direct to 1/10,000".

This versatile work table is standard equipment for precision machine work and inspection. Equipped with the microscope of your choice, the E & G Compound Base is instantly converted to a complete Toolmaker's Microscope!

Also available with our E & G Rotating Table for angular measurements.

For literature, write direct to manufacturer.

ERB & GRAY
854 South Figueroa St., Los Angeles 17, Calif.

If you write maker identify as IEN - 6474

ONE QUICK TWIST

● Insert a drill or any other shank tool in an Ettco-Emrick Keyless Ball Bearing Drill Chuck, give the chuck body a twist, and you're ready to operate. It's as simple as that. No key is needed, and scored shanks, drill slippage and retightening are eliminated. The chuck is self-centering and self-tightening. Get the full story today.

Sizes for all makes of drill presses and electric drills. Capacities range from No. 0 to 9/16"

Send for BULLETIN No. 7

ETTCO TOOL CO., INC.
602 Johnson Ave., Brooklyn 37, N. Y.
Detroit • Chicago • Worcester

Ettco-Emrick KEYLESS DRILL CHUCKS
Sold through leading distributors everywhere

If you write maker identify as IEN - 6475

first* IN INTERIOR FIRE PROTECTION

ALLENCO

OFFERS

PROMPT DELIVERY
WIDE SELECTION
TOP QUALITY

FIRE EXTINGUISHERS and SUPPLIES

Approved for fires of Class A, A1, B, B1, C, C1—soda-acid, foam, V/L, pump, gas—several sizes and finishes, also cabinets

*Voted 1st by engineers, architects, contractors, distributors; most widely used. Also complete line of hose fittings for all purposes. Write for catalog or consulting service.

Established 1887
W. D. ALLEN Manufacturing Co.
CHICAGO 6 - NEW YORK 7

If you write maker identify as IEN - 6477

DRILLING . . Turret type head mounts three spindles, 3/8 in. in steel

Source: COMMANDER MFG. CO.
4221 W. Kinzie St., Chicago 24, Ill.

Three heads are better than one

Select-A-Spindle trade names a new three-spindle turret head for application on a standard upright drilling machine as shown in the illustration. Any one of the spindles can be brought into operating position by means of a lever at the front of the head. Only the one in line with the machine spindle will be driven. The other two will stand idle. One or all three of the spindles can be equipped with a variation of the company's spring clutch taper. Adjustable torque control can be set to protect taps to 1/4 in. against undue strain.

If you write maker identify as IEN - 6478

LUBRICATING . . Compounded grease particularly for use in die cushions

Source: DAYTON ROGERS MFG. CO.
2822-26 13th Ave., S., Minneapolis 7, Minn.

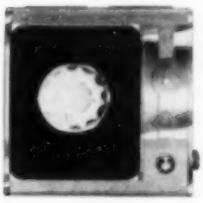
Free sample upon request

New lubricant has been developed by the company for use in press die cushions to minimize wear on the packings without softening them to a point where they will not hold the air pressure. Packaging is in 10-lb. cans and 35-lb pails.

If you write maker identify as IEN - 6479

LIGHTING . . Illuminator for examination of X-ray films

Source: KELEKET X-RAY CORP.
225 W. 4th St., Covington, Ky.



Makes detail clear

Photoflood lamp in the housing of this new illuminator provides the light required for film examination over the 14 by 17-in. area of the viewing surface. The lamp also produces a 3-in. spot at the center of the surface of about 4 times the overall intensity. Control centers at a foot switch. Brightness can be regulated.

Accessories include clips and a drip pan to examine films that are wet. A built-in adjustable mask is provided for the viewing spot. Separate masks can be used for films smaller than 14 by 17 in. size.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6480

with MULTI-CLEAN ASPHALT TILE PRESERVER and THE MULTI-CLEAN METHOD

"We spend 65% less maintenance time on our asphalt tile floors and have cut our material costs in half since using the Multi-Clean Method," says the maintenance director at Seeger Refrigerator Co., St. Paul, Minn.

Multi-Clean Asphalt Tile Preserver and the Multi-Clean Method apply to old and new asphalt tile floors . . . add years to their life, impart a new beauty-clean appearance and sure footing. No wax is required for a bright and gleaming surface.

Maintenance in the Seeger offices includes daily dry dust mopping and damp mopping with cold water followed by machine buffing with a No. 0 steel wool disc every 3 to 4 days. A new application of Multi-Clean Asphalt Tile Preserver is made 4 times a year.

Write Multi-Clean Products, Inc., Dept. IE-6 for details.

Multi-Clean 9-Job Floor Machine

Multi-Clean Wet-Dry Vacuum

MULTI-CLEAN
2377 Ford Parkway
ST. PAUL 1, MINNESOTA

free! FLOOR MANUALS—Handy file size, each manual deals with a specific type of floor, its characteristics and care . . . asphalt and rubber tile, terrazzo, concrete, wood, linoleum.

If you write maker identify as IEN - 6481

M&M
GIANT KEYSEATERS

M & M Giant Keyseaters, built in a wide range of sizes, speedily and accurately cut internal keyways or splines in the bores of pulleys, gears, fly wheels or any other machine part. Special fixtures and cutters are available for unusual shaped keyways and taper work. Send us your problems today.

MITTS & MERRILL 68
1014 South Water • SAGINAW, MICH.

If you write maker identify as IEN - 6482

Eureka Williams Corporation engineers had a tough design problem: the elimination of excessive wear on a vacuum cleaner drive belt turning a brush roll at 3500 rpm.

Instead of costly and time-consuming "cut-and-try" experimentation, they slowed the motion over 200 times with the Kodak High Speed Camera. When the 16mm film was projected at normal speed, the answer was readily apparent—a belt material of different characteristics. In addition, the pictures showed how a change in brush design would greatly increase sweeping efficiency.

Here is but one example of how the Kodak High Speed Camera, taking up to 3200 pictures a second, solved a difficult design problem. The booklet, "Magnifying Time," will show how high speed photography can help solve your problems of design, production, and product performance. For your copy, write to Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y.

the Kodak HIGH SPEED Camera

Kodak

If you write maker identify as IEN - 6484

PLATE...to TUBE... to 5 ton MANIFOLD

(cost cut 20%)

Estimated savings from Dresser's practical method of making weldments like this . . . 20% of cost, 30% of weight. And by using Dresser's specialized ring-making experience, this customer kept his own facilities free for normal production.

If you use ring-shaped parts of subassemblies, send today for Dresser's "RINGS" folder. It may be the first step toward big savings.

"RINGS" folder shows Dresser method, defines size limits, etc. Write Dresser Manufacturing Division, 59 Fisher Ave., Bradford, Pa.

DRESSER RINGS

ONE OF THE DRESSER INDUSTRIES

If you write maker identify as IEN - 6485

Speed Production...Save Money with WEBBER INDUSTRIAL FREEZERS

Webber Industrial Freezers can save you time and money on the following operations:

- In the Shrink Fit of Metals for Production and Assembly
- For Stabilization of Metals for Tool and Fixture Manufacturers
- For Metal Hardening—For greater tool life and accuracy
- For Storage and Testing of Materials at Extremely Low Temperatures
- For Chemical Curing, Ageing and Processing
- Eliminates Dry Ice Applications and Overhead
- Amortizes itself in less than one year
- Performs Low Temperature Services with Greater Dependability and Accuracy to Temperatures as low as −163° below zero.

Cut your operating costs, Improve Quality and Production, Save Valuable Tools, and Improve Testing Methods with Webber Industrial Freezers

36 Standard Models . . .
or Built to Your Specifications
. . . at No Additional Cost.
A Freezer for Every Need

REPRESENTATIVES IN MOST CITIES

Patents Pending

Write for More Complete Information

INDUSTRIAL FREEZER DIVISION
WEBBER APPLIANCE CO., INC.
8-2740 MADISON AVENUE • INDIANAPOLIS 3, INDIANA

If you write maker identify as IEN - 6486

THE COMPLETELY NEW LEWIS-SHEPARD JACKSTACKER TRUCK

Since 1915

"MASTER" line

LEWIS-SHEPARD PRODUCTS, Inc.

If you write maker identify as IEN - 6487

INSULATING . . Fiberglas board prevents condensation on cold air duct

Source: OWENS-CORNING FIBERGLAS CORP.
100 Nicholas Bldg., Toledo 1, Ohio

No drip, no rust

Vapor-Seal trade names a new Fiberglas insulating board faced with a vapor barrier of asphalt and Kraft paper. The material has been designed to apply on air conditioning ducts carrying cool air. It prevents duct surface condensation in warm humid areas.

The material is supplied in 24 by 48 in. panels and in four thicknesses from ¾ to 2 inches. It can be cut readily to a required shape and is applied by screws or by the use of metal clips. Where the material is punctured it is sealed with a cut-back asphalt mastic so moisture cannot enter the structure. Joints are sealed with a trowel coat of vapor barrier mastic. Strips of open-mesh glass cloth or tape 3 to 4 in. in width can be embedded in the asphalt to reinforce the joints.

If you write maker identify as IEN - 6488

WELDING . . AC. arc machine in four ratings from 200 to 500 amperes

Source: METAL & THERMIT CORP.
100 E. 42nd St., 17th Floor, New York 17, N. Y.

Size for every need

New design in the company's line of arc-welding machines, known as Type WK, includes silicone insulation for protection against moisture, chemical fumes and vapors, a relay and resistor connected across the transformer secondary in series to provide automatic hot start and the use of capacitors in the secondary circuit to provide extra current surge if the arc starts to fail. Operation is on 220 or 440-volt 60-cycle single-phase ac. Output is at 40 volts except in the smallest light-duty machine in which it rates 20 volts.

Current range is from 30 to 250 amp. in the smallest machine and from 40 to 625 amp. in the largest one. The company has published data sheets with detail specifications and performance curves which are available on request.

If you write maker identify as IEN - 6489

Microwave equipment employing radar-like radio beams provides a new means for communication between points on a line-of-sight path. The new General Electric development is designed for installation by utilities and pipe line companies in place of telephone lines to conserve large amounts of copper. Signals can be sent over the waves to start and stop engines, read meters, open and close valves, regulate pressures as well as to talk.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6490

Your Workers Look to You For *Sure* Eye Protection

Give Them WATCHEMOKET eye SAVERS

Supply your workers with Eye-Savers — the finest in plastic eye protection! Eye-Saver shatterproof lenses have great impact strength and are optically perfect to give sure eye safety. Workers especially like the light, comfortable fit and good looks of every Eye-Saver goggle. Available from your safety supplier in many different styles to meet all eye hazards. Model 7 (illustrated) has become the standard of industry for heavy duty applications.

FREE! *Send for magazine article giving impartial advice on best uses of plastic eye protection. Eye-Savers catalog also included.*

WATCHEMOKET OPTICAL CO., INC.
DEPT. S, PROVIDENCE, RHODE ISLAND
Producers & Originators of Practical Plastic Eye Protection

If you write maker identify as IEN - 6491

O-RINGS by INJECTION MOLDING

Dependable Hydraulic Seals

Minnesota O-Rings function in air or gas systems as well as in hydraulic systems. Air cylinders . . . hydraulic valves . . . hoisting mechanisms . . . water pumps . . . bottling machines . . . refrigerators . . . motors . . . lubricators . . . are a few of their uses. Minnesota's exclusive injection process makes possible very close dimensions, uniformity in mass production and downright economy. We use special compounds of synthetic rubber to meet your exact requirements. Let us quote on your next hydraulic packing installation.

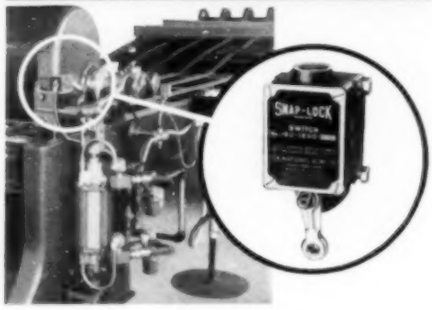
Manufacturers of all types of small rubber parts

Write for O-Ring Catalog

MINNESOTA RUBBER & GASKET CO.
3630 WOODDALE AVE., MINNEAPOLIS 16, MINN.

If you write maker identify as IEN - 6492

SNAP-LOCK — For Split-Second Precision



*400 OPERATIONS PER MINUTE ON THIS COE VENEER CLIPPER

The Coe Manufacturing Company, "world's largest makers of veneer machinery," have devised their own special type of torture test for limit switches in their new air-operated veneer clipping machine. No ordinary switch could survive the ordeal of operating 400 times a minutes under such heavy duty service.

Snap-Lock passed the test with flying colors! Its record of dependability is renowned; over 80% of the nation's machine tool builders have standardized on Snap-Lock for dependable service.

Here are the exclusive design and construction features that have contributed to this outstanding acceptance record:

1. Separate sealed electrical and mechanical sides (for added safety)
2. Hardened steel moving parts (for greater strength, longer life)
3. Positive on or off locking (can't stop on dead center)
4. SNAP make and break (fast acting — accurate)
5. Coin silver self-wiping contacts (no arcing)

Snap-Lock Limit Switches are built in a variety of types and sizes, to suit every industrial application; special mountings are available. May we show you how they can be designed into your product?

The complete range of Namco standard Snap-Lock Limit Switches is illustrated and tabulated in our new engineering bulletin EM-51. Be sure to get your copy.

ELECTRICAL MANUFACTURING DIVISION
178 East 131st Street • Cleveland 8, Ohio

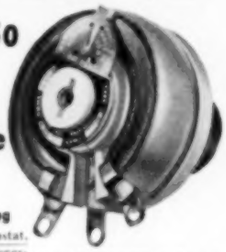
THE NATIONAL ACME CO.
CLEVELAND, OHIO

If you write maker identify as IEN - 6494

THIS IS IT

★ the NEW H-50 Rheostat

★ another Hardwick, Hindle ten-strike!



Instructions to our engineering department were: design a rheostat, completely new construction if necessary, that embodies all features essential to producing a rheostat that "can take it" in the wide industrial field.

They did—and this is it.

It is of course bonded with our new blue-gray high-temperature enamel coating—and its new trouble free construction assures far greater service and efficiency.

And please note; this new H-50 is designed to comply with current standards of:

(a) Military Specifications JAN-R-22.
(b) Underwriters' Laboratories.
(c) R.T.M.A.
(d) N.E.M.A.

Send for our new H-50 bulletin giving full information and details.

HARDWICK, HINDLE, INC.
Rheostats and Resistors
Subsidiary of
THE NATIONAL LOCK WASHER COMPANY
Established 1886 NEWARK 5, N. J., U.S.A.

the mark of quality for more than half a century

If you write maker identify as IEN - 6495

Stop Brow Mopping!

SAVE
- Time
- Money
- Bother

Try KOOLPAD

INEXPENSIVE . . . Cellulose sponge SWEATBAND that absorbs forehead perspiration . . . keeps eye glasses and goggles free from sweat streaks or fogging. Eliminates "Brow Mopping." Adjustable Headband . . . Two Models . . . Washable!

Costs less than the ordinary pocket handkerchief that you use to mop your brow.

Obey your impulse!

Write Now For Descriptive Bulletin No. 555

STANDARD SAFETY EQUIPMENT CO.
232 W. ONTARIO ST. CHICAGO 10, ILL.
Newark 4, N. J. 597 Broadway — Cleveland 6, Ohio 3029 E. 108nd St. — Los Angeles 16, Cal. 3955 Crenshaw Blvd.

If you write maker identify as IEN - 6496

Femco COMMUNICATION

"There have been days when our Trolleyphones paid for themselves in a single day!"

FOR MINES FOR MILLS

Easy to Buy • Easy to Install • Easy to Use • Make Us Prove It

Femco TROLLEYPHONE

Uses existing wires and power supply to provide clear voice communication over loud speakers. Bulletin No. 25.

Femco AUDIOPHONE

Wherever wires can be laid or run you can have Femco Audiophone systems installed. Bulletin No. 26.

LOW COST • LOW MAINTENANCE

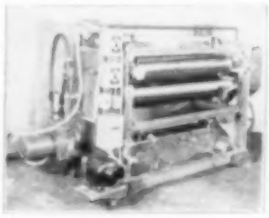
"YOUR VOICE OF ACTION"

FARMERS ENGINEERING
A MANUFACTURING COMPANY
549 Brushton Ave., Pittsburgh 21, Pa.

If you write maker identify as IEN - 6497

SPREADING . . Roller coating machine electrically heated to 250 deg. F.

Source: BLACK BROTHERS CO.
988-92 9th St., Dept. RC, Mendota, Ill.



Built for specified use

Cements, glues, sizes, sealers, stains, varnishes, lacquers, paints can be applied at correct temperatures for each material in a range to 250 deg. F. by means of this new electrically-heated roll-type machine. It will coat materials to 120 in. in width at operating speed to 400 feet per minute. Various roll surfaces and materials are available to apply an accurate coating in required consistency.

Electric elements with thermostat control provide the heat in the standard machine to coating material held in a supply tank. A motor-driven pump circulates the material to the roll fountains with arrangement for continuous circulation and gravity return or intermittent supply. The machine is available also for steam or gas heat or for water cooling.

If you write maker identify as IEN - 6498

FASTENING . . Die cast wood screw made of zinc alloy, No. 1 by 3/8 inch

Source: GRIES REPRODUCER CORP.
793 E. 133rd St., New York 54, N. Y.

Sample available upon request

Frearson head for a Phillips screw driver is standard in the company's new die-cast zinc-alloy wood screw. It is available at present in one No. 1 size by 3/8 in. in length. It is cast and trimmed in one operation ready for surface finishing.

If you write maker identify as IEN - 6499

RESISTOR . . Wire wound design rates to 160 watts, 400,000 ohms

Source: SPRAGUE ELECTRIC CO.
344 Beaver St., North Adams, Mass.

Details in Bulletin 110

Blue Jacket trade names a new line of wire-wound resistors in lug-terminal, vitreous-enamel coated design. Thermal expansion characteristics of the ceramic core, the end terminal bands, and the coating enamel are matched to resist violent temperature changes. Resistance wire is drawn to exact specifications and is wound under controlled tension. Winding ends and terminal lugs are welded to the bands. Various mounting designs include push-in type, through-bolt horizontal, through-bolt vertical.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6500

IT'S TIME TO ACT FAST!

talk business in 2 seconds

Reach Anyone Instantly

Boost Output

Cut Costs

SAVE TIME WITH ELECTRONIC **AMPLICALL** INTERCOMMUNICATION

Gear up *now* for bigger output and increased efficiency. AMPLICALL provides 2-second speech contact between all departments for fast relay of orders and information. Stops wasteful walking and waiting—keeps plant and office personnel on the job every working minute—takes the load off busy switchboards. AMPLICALL *gets more work done for every operations dollar spent*—pays for itself quickly. Get the full details *today*.

SEE YOUR CLASSIFIED PHONE BOOK under "Intercommunication" for your AMPLICALL specialist, or write us direct

Electroneering is our business

SOUND EQUIPMENT — **Rauland** — INTER-COMMUNICATION

RAULAND-BORG CORPORATION • 3523-K ADDISON ST., CHICAGO 18, ILL.

If you write maker identify as IEN - 6501

3-Speed Milwaukee 1/2" Hole-Shooter

...for straight and right-angle drilling

Favorite electric drill of contractors in construction work. Drills in wood, metal, masonry, concrete, tile. Uses wood bits up to 3". *Ask for Folder EAD-1.* Write — Milwaukee Electric Tool Corporation, 5860 W. State St., Milwaukee 8, Wisconsin.

S-412 Drill with "2-speed Right-Angle Drive" attachment $74.00

Complete Tri-Speed Kit . . $88.75

Kit contains — S-412 1/2" Hole Shooter, geared chuck and wrench, *2-speed Right-Angle Drive attachment, 3 special bits . . . 1/2", 11/16", 29/16", *Pat. Pending.

ASK YOUR DISTRIBUTOR

If you write maker identify as IEN - 6502

Hook-on Instruments ...VIA GRAYBAR

3 models provide for any measurement . . . quickly . . . without interrupting service

AK-1 Volt-Ammeters
- Measures AC current and voltage quickly
- Checks motor over- or under-loading
- Detects unbalanced loading on polyphase circuits

Ranges: 0-15-60-150 amperes, 0-150-600 volts . . . with accuracy to ±3% of full scale.

AK-2 Wattmeters
- Makes motor load tests
- Makes plant load surveys
- Checks resistance of electrical furnaces
- Measures 3-phase balanced power

Ranges: 0-3, -6, -20, -60, -200, -30 kw; 15-600 Amperes; 100-600 volts . . . with accuracy ±3% of full scale.

AK-3 Power Factor Meter
- Spots power losses
- Locates circuits that need corrective action
- Simplifies capacitor installation for lower power bills and improved voltage regulations

Ranges: 160-600 volts; 15-600 amperes . . . with accuracy within 0.05 power factor.

Graybar-distributed G-E hook-ons handle conductors up to 2" in diameter. See your local Graybar Representative for complete details and prices on these handy, labor-saving instruments. *Graybar Electric Co., Inc. Executive offices: Graybar Building, New York 17, N. Y.*

Call Graybar *first* for . . . Everything Electrical GraybaR

248-126

If you write maker identify as IEN - 6503

LOW COST Load Check with Thermalite OVERLOAD INDICATOR

ALLIS-CHALMERS DISTRIBUTION TRANSFORMERS

THE NEW *Thermalite* overload indicator provides a low cost load check two ways:

1. It offers a continuous visual load check that may be conducted from your service truck. Thus you can keep up-to-date records on performance at low cost.
2. It locates transformers carrying overloads without interrupting service. That means you can schedule transformer replacements during daylight hours.

In response to high oil temperatures, the brilliant light on the *Thermalite* indicator lights up. And it stays on during overloaded conditions until reset manually by the convenient reset handle. But in no way does it interrupt service.

You can secure more information on the *Thermalite* indicator by contacting your nearby A-C sales office or by writing to Allis-Chalmers, Milwaukee 1, Wisconsin.

Thermalite is an Allis-Chalmers trademark.

ALLIS-CHALMERS A-3718

If you write maker identify as IEN-6504

BETTER SEEING TOOLS FOR INDUSTRY

FOSTORIA LOCALITES INCREASE WORKERS' EFFICIENCY

Light the Vital Seeing Zone on Machine Tools, Inspection and Assembly Benches

MODEL 3267-M-174

$6.12 EACH in pkg. of 6 Single Units $7.65 ea.

Overall length 32¾". Three instantly adjustable joints. Flat oblong base for machine screw mounting.

- **Rugged Construction** withstands vibration and rough handling
- **Instantly Adjustable** with flexible ball and socket joints
- **Baked Enamel Finish** — Exterior, Smooth Gray — Reflector Interior high temperature White
- **Reflector** accommodates 100 watt or any A-19 or A-21 medium screw base lamp
- **Wired Complete** with switch socket and 8 ft. oil resistant cord and moulded plug

WRITE FOR COMPLETE CATALOG of Localite models with various type reflectors, arms and bases for every industrial use.

LOCALITE fostoria For Light ON the Job

THE FOSTORIA PRESSED STEEL CORPORATION FOSTORIA, OHIO

Localites are available through electrical wholesalers everywhere.

If you write maker identify as IEN-6505

LARGE OR SMALL

SHORT OR TALL

Electroline Fittings

ARE THE CHOICE OF ALL

There's an Electroline Wire Rope Fitting to suit your every need. Actual tests have proved their great holding power in all applications, regardless of size or type.

Electroline Fittings are installed easily and safely with ordinary tools—by unskilled labor in a matter of minutes—without the danger of molten metal or acids—without blow torches or special tools.

To give you the whole story of Electroline Wire Rope Fittings, we have prepared a pocket-size illustrated catalog, filled with information of sizes and types. Why not send for your copy today?

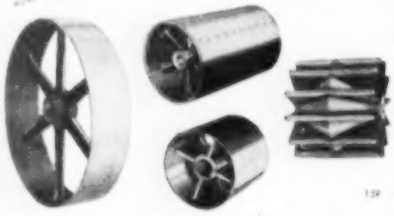
Electroline COMPANY
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS
IN CANADA: POWERLITE DEVICES, LTD., TORONTO

If you write maker identify as IEN-6506

SPROUT WALDRON S/W

PULLEYS

SOLID FACE and BELT SAVER



In handling rough, abrasive materials, S/W exclusive Belt Saver Pulleys are lengthening belt life as much as 400%. Equally well recognized is the S/W Blue Face Pulley Line in standard and made-to-order types and sizes. Write today for literature. Sprout-Waldron & Co., Inc., 5 Logan Street, Muncy, Penna.

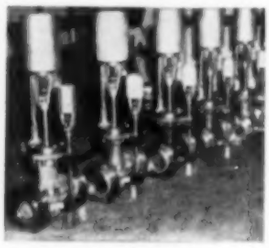
Vertical Mixers, Attrition Mills, Rotary Feeders, Ribbon Type Mixers, Crushers, Knife Cutters, Continuous Mixers, Roller Mills, Separators, Pulleys

SPROUT-WALDRON

If you write maker identify as IEN-6507

VALVE . . Power operated two way, external pressure equalizing by-pass

Source: ANNIN CO.
3502 Union Pacific Ave., Los Angeles 23, Calif.



Teflon seals seat

New design of the company's power-operated valve, previously described IEN-5272-51, employs an external power-operated by-pass similar in general design to the valve itself. Both the main valve and by-pass are solenoid actuated, the by-pass unit equalizing pressure on the two sides of the single-seated port prior to opening this main port. The valve itself employs the company's standard construction in which the body is split through the seat position so it can be taken part and the seat lifted out and replaced.

Model 1520 designates the new construction. It is available in a range of sizes from ¾ to 6 inches. Pressure rating is to 3,000 pounds. Temperature range is anywhere between minus 325 and plus 1,000 deg. F.

If you write maker identify as IEN-6508

REFRIGERATING . . Portable equipment chills and circulates processing liquid

Source: MAYER REFRIGERATING ENGINEERS INC.
P. O. Box 6-A, Rutherford, N. J.

Runs hot and cold

Seven sizes with refrigerant compressor motor rating at ¼ to 3 hp. are included in the company's new Junior Chil-Er line of portable refrigerating equipment. The motor-driven compressor and heat exchanger are mounted in a wheel-equipped housing with an insulated tank and a motor-driven circulating pump. Pump rating is 1 to 10 gpm.

Operating range is from 38 to 60 deg. F. when water is employed as the liquid medium. It is from minus 10 to plus 38 deg. F. with brine. A heating element, also available, provides for a range from 60 to 140 deg. F. A thermostat maintains required operating temperature.

Identify as IEN-6509

New source is being set up for that big double-housing planer you have needed and could not obtain. Clearing Machine has begun production at its Hamilton Division. Martin is the trade name for the new machine.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6510

For FASTER HEATING & MELTING Use *Mutual* PROPANE* FURNACES & TORCHES

#5 TORCH Develops 2400° F.

PLUMBERS & HEATING MEN—DON'T MISS THIS: Mutual's field proven Propane Furnace melts 60 pounds of lead in 12 minutes. Mutual Propane Furnaces and Torches are hotter, faster, safer. You get the job done better and quicker with fewer man hours. No pumping, priming or waiting. Won't blow out. No smoke. Light weight. Ideal for heavy duty preheating and close melting. Blow torch and soldering iron can be attached to Propane tank hose.

Mutual High Speed Torches available in broad flame or pointed flame. Reduce excessive labor costs. Use Mutual Torches and Furnaces for the most efficient, cleanest, portable fuel known.

Send for free Mutual catalog and price list.

*Liquid Petroleum Gas

#2 FURNACE

#4 TORCH—Broad Flame

#4A TORCH—Pointed Flame

ORDER NOW: Qualified Jobbers Wanted

Mutual LIQUID GAS EQUIPMENT CO., Inc.
3600 WEST IMPERIAL HIGHWAY, INGLEWOOD, CALIF.

If you write maker identify as IEN-6511

make your PUNCH PRESSES *Automatic*

It's Easy...with WITTEK Roll Feeds and Reel Stands

Wittek Roll Feeds handle any type of coiled strip stock and are made in single roll, double roll, and compound types with straighteners, in models to feed in any of four directions. They are reliable and accurate with simple, quick adjustment of feed length. Standard sizes and models meet a wide variety of press size and capacity conditions.

Wittek Reel Stands facilitate handling coiled stock.

Write for full particulars

WITTEK Manufacturing Co. Automatic ROLL FEEDS AND REEL STANDS
4336 W. 24th Place, Chicago 23, Illinois

If you write maker identify as IEN-6512

DRILL ANY SIZE HOLE IN ANY MASONRY MATERIAL with Carbide Tipped

Cyclo-Core FOR HARD CONCRETE using rotary type drill with pressure applied.

Drills holes ¼" dia. and up. Removable Cyclo-Center accessory allows precision locating and starting of hole without use of wooden template.

Cyclo-twist FOR SOFT and MEDIUM MASONRY MATERIALS using electric rotary drill, drill press or hand brace.

Drills holes 3/16" to 1" dia. up to 36" deep. Dust removing spiral flutes run from cutting edges to shank end.

Thunderbolt FOR HARD or VERY HARD MASONRY MATERIALS using electric or pneumatic hammer

Drills holes 3/16" to 1¾" dia. up to 18" deep. Carbide tip withstands shock and wear. Taper proportioned to withstand crystallization.

SEND FOR NEW MASONRY DRILL BIT GUIDE — "Helps you choose the RIGHT bit for EACH job."

New England Carbide TOOL CO., INC.
60 BROOKLINE STREET, CAMBRIDGE 39, MASS.

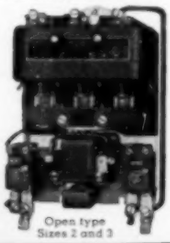
If you write maker identify as IEN-6513

CLARK Type "CY"

AC MAGNETIC MOTOR STARTERS *now available in* WATERTIGHT ENCLOSURES

The sensational new CLARK Type "CY" motor starters are offered in a wide variety of types and enclosures for use in such industrial atmospheres as hazardous gas, dust or excessive humidity. Illustrated above, is the NEMA Type 4 Watertight Enclosures, for sizes 0, 1, 2, and 3.

CLARK Type "CY" starters, sizes 2 and 3, have an entirely new arc-quenching principle which greatly increases contact life, by a constant rotation of the arc on contact surfaces.



Open type Sizes 2 and 3

Write for descriptive literature.

THE CLARK CONTROLLER CO.
ENGINEERED ELECTRICAL CONTROL • 1146 EAST 152ND STREET, CLEVELAND 10, OHIO

If you write maker identify as IEN - 6514

free

MONEY-MAKING FACTS ABOUT TUFFLEX

These two folders are yours for the asking. They give technical facts and specifications about Tufflex—the fiber felt material that offers industry a rare combination of low thermal conductivity—effective shock absorption—vibration dampening—highly efficient cushioning—better protective padding. Tufflex is finding new uses among manufacturers who want to cut production costs and increase quality. Write now for descriptive literature and a sample of Tufflex. Wood Conversion Co., Dept. 126-62, First National Bank Bldg., St. Paul 1, Minn.

A PRODUCT OF WEYERHAEUSER

TUFFLEX*

*REG. U. S. PAT. OFF.

If you write maker identify as IEN - 6515

DIEHARD'S CASE ISN'T SO UNUSUAL AS YOU MAY THINK!

In all types of industry West representatives hear comments like "our situation is a special one" . . . "an insecticide is bound to impair the quality of our product" . . . and — stranger still — "we don't have any insect problem here!"

Vaposector was formulated for the realist who *has* an insect problem and wants to get rid of it — fast! It's fully three times as concentrated as the standard Grade AA spray . . . yet there's no danger of contamination or odor when used according to directions. Vaposector controls insects by "double penetration". When used with West spraying equipment, it becomes a "dry fog" that *penetrates* the most remote crevice . . . then *penetrates* the insect's outer covering for a permanent kill. There's no place to hide. No time to escape. A Vaposector demonstration has often revealed dead insects in numbers never thought possible — simply because they live and multiply in unseen cracks and crevices.

Vaposector gives more positive control value per gallon than any competitive product. It breaks down into such minute droplets when atomized with specially designed West equipment, that only one ounce is needed to control flying insects in 1000 cubic feet . . . only two ounces for crawling insects. Compare it with an ordinary mill spray and you'll find Vaposector is over *four times as economical in use!* West can supply Vaposector as well as special mill sprays and fumigants . . . residual and contact insecticides . . . spraying equipment — a *complete insect control program* tailored to your exact needs! For further information, write Dept. 13.

WEST DISINFECTING Company

42-16 WEST STREET, LONG ISLAND CITY 1, N. Y.

If you write maker identify as IEN - 6517

COMMUNICATING . . Dial telephones and switchboard for office and plant

Source: AUTOMATIC ELECTRIC CO.
1031-35 Van Buren St., Chicago 7, Ill.

Details in Circular 1735

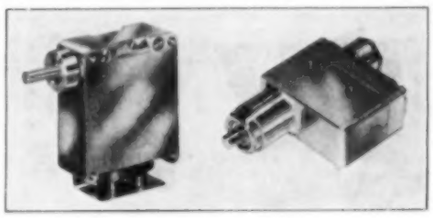
Type 47-A is a new assembly of dial-type telephone instruments and an automatic switchboard to provide 20 lines for 20 or more telephones and to handle four conversations at any given time. A companion assembly, known as Type 47-B, provides 40 lines for 40 or more telephones with six conversations at once. The new equipment has been added to the company's P-A-X line for installation in office and plant. It provides communicating lines and means for paging independent of the standard outside telephone connections. In addition to the regular telephones in the new assembly, it is possible to install extension telephones on as many of the lines as required and still retain selective ringing for any individual unit.

The telephones are the company's standard Monophone design. They are available in desk, table and wall-mounting units. The switchboard, also manufactured by the company, operates on 24-volt dc, provided by standard 110-volt ac input through a self-contained battery eliminator. Type 47-A cabinet measures about 27 by 16 by 54 in. and weighs 300 lb. installed. Type 47-B is 40 by 16 by 69 in., weighs 500 pounds.

If you write maker identify as IEN - 6518

SWITCH . . Plunger operated for installations subject to icing

Source: UNIMAX SWITCH DIVISION
460 W. 34th St., 15th Floor, New York 1, N. Y.



Particularly for aircraft

Type LK, to the left in the illustration, and Type X-101, to the right, are typical examples of new sealed plunger-operated switches for use in locations subject to icing. The switch mechanism is assembled in an aluminum housing sealed against the entrance of moisture. The complete assembly can be immersed without danger of shorting. Current rating is to 10 amp. at 28-volt dc. Overall dimensions of Type LK are 2¼ by ¾ by 3½ inches.

The plunger is backed with a spring having sufficient strength to break ice that might accumulate after the plunger has been moved to depressed position. It will break free as soon as the operating pressure is released.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6519

FOTO-FLO* MODEL C PHOTO-COPYING MACHINE
New! Speedier! More Economical!

DAYLIGHT OPERATION NO DARKROOM REQUIRED

Makes up to 5 (18" x 24") Prints a Minute of anything written, printed, drawn or photographed

WRITE DEPT. 52-58 for information showing how FOTO-FLO can speed production and lower photo-copying costs.

*Reg. U. S. Pat. Off.

HALOID THE HALOID COMPANY ROCHESTER 3, NEW YORK
Branch Offices in Principal Cities
Photocopy Papers • Photo copying Machines • Photographic Papers

If you write maker identify as IEN - 6520

The Johnson Joint has solved many design and production problems as nothing else can. And the Type L, shown above, is helping to fit it into more applications all the time. It has lugs cast on body to permit simple rod support, an arrangement that both simplifies installation and assures proper alignment. Completely packless, self-lubricating and self-adjusting, the Type L Johnson Joint is used on calenders, dryers, mills, etc. — wherever steam or liquids must be admitted to rotating machine parts.

Write for new catalog

The Johnson Corporation
846 Wood St., Three Rivers, Mich.

If you write maker identify as IEN - 6521

UNIFORM

KESTER FLUX-CORE SOLDER

UNIFORM in Alloy and Flux-Content

Right down the line, pound after pound, spool after spool, Kester has these features of *uniformity*, so necessary to the best in soldering!

Free Technical Manual: Send for your copy of "SOLDER and Soldering Technique" today.

KESTER SOLDER COMPANY
4211 Wrightwood Ave., Chicago 39
Newark 5, New Jersey • Brantford, Canada

KESTER SOLDER

If you write maker identify as IEN - 6522

BAKER TRUCKS require LESS MAINTENANCE

to you this means
- LESS TIME OUT OF SERVICE
- TOP OPERATING EFFICIENCY
- LOWER OVERALL COST

Baker Trucks are built to give maximum trouble-free service, and designed for easier preventive maintenance and less costly repairs.

Electric dynamic braking saves wear on brake linings and protects truck parts. Service brakes can be adjusted in 5 min., and relined in 30 min.

Power Axle has fewer moving parts and is less subject to wear. Mast assembly can be removed in 20 min. and power axle pulled in 40 min.

Trailing Axle is the simplest in use on industrial trucks. Can be removed from truck in less than 20 minutes.

These 3 illustrations are from the new 16-page picture-story manual "Care and Maintenance of Industrial Trucks." Write for your copy today.

BAKER INDUSTRIAL TRUCK DIVISION of The Baker-Raulang Company
1226 West 80th Street, Cleveland 2, Ohio

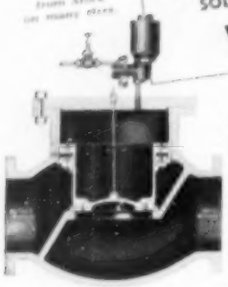
Baker INDUSTRIAL TRUCKS

If you write maker identify as IEN - 6523

For dependable Trouble-Free Remote Control Operation

GOLDEN-ANDERSON *Cushioned* SOLENOID-OPERATED VALVES

Immediate Shipment from Stock in many sizes



FOR WATER, OIL OR LIQUIDS

These automatic valves provide full pipe line area when open, are drop tight when closed, permit adjustable closing speed, and are cushioned to prevent hammer or shock. Golden-Anderson electrically operated service valves have proven their greater efficiency and all-around dependability in many of the largest industrial plants of America.

Let our experienced engineers help you on your next pressure control problem. Technical data on request.

GOLDEN ANDERSON *Valve Specialty Company*

2079 KEENAN BUILDING • PITTSBURGH 22, PA.

If you write maker identify as IEN - 6524

EASIER, LESS COSTLY

Material Handling

...with powerful, Spur-Geared

CHESTER HOISTS

Chester Spur-Geared Chain Hoists are expertly designed and ruggedly built . . . to give you rapid lifting and lowering with the least effort and lowest cost. Made in sizes from ¼ to 2½ tons—and built into a number of special purpose hoists such as Extended Hand Wheel and Low Headroom. Timken Bearings reduce friction on working parts, insure smooth operation and long life. Chester Differential Hoists are also available in ¼, ½, 1 and 1½-ton sizes. Ask your distributor, or write us, for complete catalog, and tell us your requirements.

FAST SERVICE ON "SPECIALS"

With a modern, compact, completely integrated plant, we can give fast service on special types such as Low Headroom Trolley Hoists. Let your distributor quote on your specifications, or write us direct.

CHESTER HOIST DIVISION
The National Screw & Mfg. Company
Lisbon, Ohio

If you write maker identify as IEN - 6525

SCRAPE OR SCRUB

WITH THIS ONE HILD MACHINE

Scrape off hard-caked grease and dirt . . . scrub away dangerously slippery oil with this one powerful HILD Floor Machine. With Power-Scraper attachment the HILD Machine saves hours of chipping with a hand-spud. No danger of marring floor surface or of loosening wood blocks. With Shower-feed Brush, the HILD Machine is equally speedy and thorough in scrubbing away slippery oil film . . . easily reaches "danger spots" around, beneath and between machines.

Only HILD has the SHOWER-FEED BRUSH

Cleaning solution flows from tank on handle through holes between each row of bristles . . . for thorough scrubbing with utmost economy.

Ask for FREE Demonstration

Write for FREE 24-Pg. Book

1927-1952 HILD Floor Machines MAINTENANCE EQUIPMENT & SUPPLIES OUR 25TH YEAR

HILD FLOOR MACHINE COMPANY
Dept. IEN-6, 740 W. Washington Blvd., Chicago 6, Ill.

IDEAS FOR YOU

Items of particular interest in the news other than straight new products, development pointing toward the future, unusual procedure to accomplish a point, suggestions for practical action, each to provide ideas for you.

Identify as IEN - 6526

Alemite tells us about a Clark Service Company in St. Louis organized as a separate outfit to provide service to Clark fork-lift trucks operating in the St. Louis area. A major part of this service is lubrication for which the company operates three automotive trucks equipped with Alemite lubricators, an air compressor and receiver and accessory items. A hoist on each truck handles lubricant drums. The trucks make their rounds plant by plant so Clark owners can forget lubrication. Want a list of Alemite equipment for such a job?

Identify as IEN - 6527

Doodler defacing of plain metal surfaces on the products you make, the products you use and in your own plant and office, can be stopped by replacing the plain metal or covering it with Rigidized metal. The surface of this material carries a pattern that cannot be scratched noticeably or marked upon by individuals with doodling tendencies.

Identify as IEN - 6528

You can reduce entrance of heat through the roof in your plant this summer by installing Alfol aluminum-faced sheet under the roof. Previously described IEN 9815-49, the material expands as it is installed to create air spaces between multiple aluminum layers. Weight is about 0.1 lb. per sq. foot.

Identify as IEN - 6529

Hypalon S-2 is a new rubber-like material made by treating DuPont polythene resin with chlorine and sulphur dioxide. The material is being produced in a white spongy matted form in a pilot plant for evaluation in automobile tires, weather stripping, window channels, coated fabrics, wire and cable covering, protective coatings for rubber. It can be fabricated, blended with natural and synthetic rubbers. It shows almost complete resistance to attack by ozone. It has excellent resistance to abrasion, heat and flexure.

Identify as IEN - 6530

Training school has been established by DoAll Company in its Illinois plant to develop sales-service engineers and to teach customer employees the operation, maintenance and application of DoAll band-saw machines, surface-grinding machines, and precision measuring instruments. The school was started some time ago, now has been expanded so it can take care of requests it receives for this no-charge service.

Identify as IEN - 6531

DeVilbiss spray-painting equipment is now available on an exchange basis through which equipment that has been rebuilt will be exchanged to users having equipment suitable for rebuilding in Types P-MBC and MBC-510 spray guns and the company's complete line of air compressors. Six rebuilding stations handle the work and the exchange.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

If you write maker identify as IEN - 6532

this new WELDING DESIGN MANUAL

FREE! FOR THE ASKING

To assist you in your re-tooling problems . . . or to help you analyze your present welding methods so that you may enjoy maximum speed, efficiency, and economy in many of YOUR production problems...

72 Pages PROFUSELY ILLUSTRATED

Giant new 4th Edition contains 62 new photographs, 132 new drawings, 72 pages of helpful data covering basic and advanced welding techniques and designs used in fabricating and assembly. Profusely illustrated with application drawings; weld diagrams; tables of melting temperatures, strengths, corrosion factors; charts; alloy recommendations; etc. Convenient digest size.

This just-off-the-press book is "must" reading for anyone engaged in defense production and design, and will certainly be time profitably spent for any production man.

SEE . . . The unbelievable savings in metal-joining which can now be yours through the use of Low Temperature Welding Alloys ® discovered a few years ago and now used in over 78,000 industrial plants throughout America for more efficient metal-working production as well as for salvaging irreplaceable tool and machine parts.

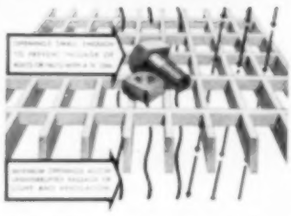
Over 100 different new, EUTECTIC Low Temperature WELDING ALLOYS® and EUTECTOR® fluxes are job-engineered for use on ALL metals—cast iron, alloy steels, aluminum, copper and nickel alloys, die castings, overlays, etc., and may be applied with ALL heating methods—torch, arc, furnace, induction heating, etc.

SEND FOR YOUR COPY TODAY!

EUTECTIC WELDING ALLOYS CORPORATION
172nd Street at Northern Boulevard • Flushing, New York, N. Y.

If you write maker identify as IEN - 6533

TRI-LOK RECTANGULAR OPEN STEEL FLOORING



Tri-Lok strength is obtained by truss action through twisted cross-bar, curved in opposite directions at each bearing-bar. Standard openings in Tri-Lok Rectangular Steel Flooring are 1" x 3½"—other sizes can be supplied as required.

Diagonal, or Super-Safety U-type Flooring, and stair treads of all types, are available. Bulletin ND 1140 describes the construction features of Tri-Lok Open Steel Flooring.

The Tri-Lok Company is also equipped to furnish *riveted* and Tri-Forged *welded* open steel flooring. Tri-Lok grating can be furnished in a variety of metals, including aluminum alloy, stainless steel, etc.

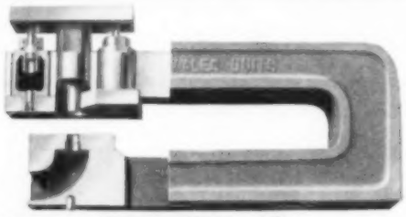
DRAVO CORPORATION
National Distributor for the Tri-Lok Company
Dravo Building, Pittsburgh 22, Pennsylvania
Sales Representatives in Principal Cities

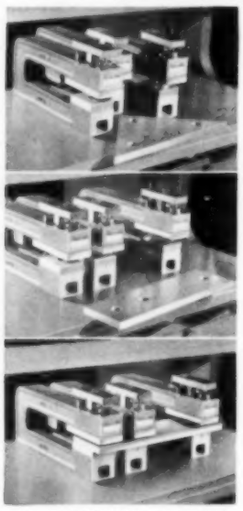
If you write maker identify as IEN - 6534

Announcing

WALES HYDRA-STRIP UNITS

for *punching round or shaped holes in material up to 3/4" thick*





Above cutaway view of Wales Hydra-Strip Hole Punching Unit shows 2 Wales Hydra-Springs (one on each side of the punch). The Hydra-Spring at left of the punch is a cross-section view.

Showing a template setup of Wales Hydra-Strip Hole Punching Units in a press brake.

A straight line setup of Wales Hydra-Strip Units with 3/4" thick punched work in foreground.

Showing setup of Wales Hydra-Strip Hole Punching Units with work on top of dies ready to be punched.

A major *PROBLEM* in perforating sheet metal has been the stripping of thick material . . . not the punching. Wales Hydra-Springs solve this age old problem by providing many times more stripping pressure than mechanical springs of the same volume.

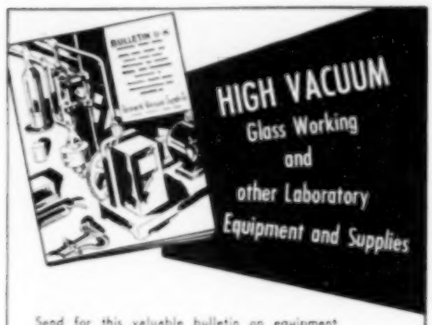
These *revolutionary* springs permit compact, self-contained, independent Wales Hole Punching Units to punch and *strip* material up to ¾" thick.

Such *outstanding performance* is the result of utilizing the compressibility of special fluids. Wales Hydra-Spring loads may be changed by a simple adjustment to increase or decrease the volume of fluid.

This is too big a story to tell in this space so WRITE TODAY for complete information on Wales Hydra-Strip Hole Punching Units.

WALES-STRIPPIT CORPORATION
George F. Wales, Chairman
361 Payne Avenue, North Tonawanda, N. Y.
Between Buffalo and Niagara Falls
Wales-Strippit of Canada Ltd., Hamilton, Ontario
Specialists in Punching and Matching Equipment

If you write maker identify as IEN - 6536



Send for this valuable bulletin on equipment for industrial plants. Features new glass working apparatus, such as oxygen - gas - hydrogen equipment, gas-air burners and automatic machine burners.

Also gum rubber tubing, hose clamps, vacuum systems and miscellaneous accessories.

You will find this bulletin very helpful—a handy reference book with over 100 illustrations of various items.

MANUFACTURERS RV DISTRIBUTORS
RESEARCH VACUUM SUPPLY COMPANY
Glass Blowing Equipment • High Vacuum Pumps and Accessories
3434 MONTROSE AVENUE • CHICAGO 18, ILLINOIS

If you write maker identify as IEN - 6537

GAGE and SORT PRECISION PARTS

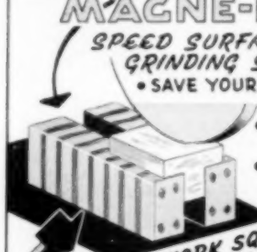
Automatically and at High Speed

The final inspection and sorting of mass-produced, similar parts is automatically accomplished by Federal Gaging and Sorting. The speed of automatic gaging is limited only by the speed of mechanical handling of the workpieces. As for accuracy, extremely high magnifications can be provided, (in millionths when necessary) or fairly low magnification and long range. Practically any dimension or several dimensions or dimensional conditions can be gaged by Federal Automatic Sorting Gages. Write us for information on all types of automatic gages. FEDERAL PRODUCTS CORPORATION, 1296 Eddy Street, Providence, R. I.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively.

If you write maker identify as IEN - 6538

WHEN ACCURACY COUNTS...
Contact SCHERR!
MAGNE-BLOX
SPEED SURFACE GRINDING SET-UPS!
• SAVE YOUR MAGNETIC CHUCKS
• ELIMINATE CLAMPS
• ELIMINATE HOLDING DEVICES



★ GRIND WORK SQUARE...
★ GRIND WORK PARALLEL...
★ HOLD ROUND PIECES...
•EVERY MAN CAN OWN HIS OWN•
WRITE FOR ILLUSTRATED FOLDER
GEORGE SCHERR CO., INC.
COMPLETE LINE OF PRECISION INSTRUMENTS
198-C LAFAYETTE ST., N. Y. 12, N. Y.

IDEAS FOR YOU — Continued

Identify as IEN - 6539

Drilling cast iron with Carboloy twist drills is the subject of an 8-page bulletin first published last year, now available on request. Illustrations and drawings accompany the text.

Identify as IEN - 6540

Silver is now being clad on stainless steel by American Cladmetals to fill an order for the material in the communications field. The stainless-steel backing provides corrosion resistance. The silver surface provides electrical conductivity. The two metals are bonded together permanently and can be worked as a single sheet.

Identify as IEN - 6541

Small rectangular sheets, circular blanks, as well as large steel sheets, can be separated to assist the operator in handling them from a pile by specific application of the magnetic separator, previously described IEN 2142-51. It is known as the Verson Sheet Floater. Sizes are 6 to 12 inches. List price is $71 to $130.

Identify as IEN - 6542

New use for Mine Safety's miner's lamp has been found by the maintenance department in a western aircraft base. Inspectors and mechanics now are using the lamp to illuminate wheel wells, the interior of engines, dark locations in wing and fuselage compartments where ordinary extension lights are awkward or give inadequate light. The lamp is known as the Edison R-4 unit. The mechanics wear it around their necks with the battery in the pocket of their coveralls. There is no danger, even in the event of lamp breakage, in the presence of inflammable gases.

Identify as IEN - 6543

Wax, particularly Johnson's industrial wax, is doing many new things in addition to covering floors and furniture in the industrial field. Right now it's in the news as a drawing lubricant. News about these things is contained in a new house publication, "Metal Talk," which is published every so often. Your request will put you on the mailing list.

Identify as IEN - 6544

Summary of scrap operations for 1951 in DuPont plants and installations shows collection totaling 56,250 ton of iron and steel scrap, 2,000 ton of lead, 900 ton of copper, 240 ton of aluminum, 30 ton of nickel, 17 ton of zinc. The company's Salvage and Reclamation Division maintains continuous control, also recovered hundreds of additional tons of useful waste including paper, chemicals, greases, empty containers, pipe, valves, electrical supplies and miscellaneous items.

Identify as IEN - 6545

Hydraulic pressure with remote push-button control replaces manual labor to open and close the stopper in the big ladles used to pour molten steel into ingot molds. It is a new Blaw Knox product known as Autopour. Pressing a button opens or closes the pour opening by any amount the operator desires so he can puddle the bottom, pour full into the body and then top off easily.

Identify as IEN - 6546

Thoughtful could be the definition for new development in the executive offices of Horace A. Laney, advertising specialists. Thoughtfully the company has added a motor, pulleys and driving belt to its previously hand-operated pencil sharpener. Now the executives can continue concentration on their thoughts of the moment while Niagara Power rotates the sharpening crank. The company will send you a very rough sketch of the installation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6547

New PEP-UP IMPREGNATED SALT TABLETS
RELEASE SALT IMMEDIATELY
(Not Enteric Coated)

EACH SALT CRYSTAL INDIVIDUALLY COATED

DISPENSER
PEP-UP Impregnated Salt Tablets come to you in sanitary, factory-sealed dispensers at no extra cost.

• Will not cause salt sickness or nausea
• No delay in getting salt into system
• Starts dissolving immediately
• Dissolves completely in about 100 minutes
• Withstands rough handling and storage without deterioration
• Meets Government Specification No. SS-S-31D
• Order Now—Be Prepared
• Write for literature and prices

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI — BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada: PARMELEE, LTD. Toronto

If you write maker identify as IEN - 6548

CONSTANT TEMPERATURE HOT WATER

with Sylphon No. 902
AUTOMATIC Hot-Cold Water Mixer

• Uses hot water from any storage tank or instantaneous water heater. Regulates amount of cold water required to temper it to desired degree. Constant temperature maintained, even if supply water temperature or pressure fluctuates. Automatic shut-off if either hot or cold water supply fails—automatic start-up when supply returns. Ideal for industrial processes, showers, lavatories, etc. Used in factories, hospitals, hotels, schools, etc. Write for Catalog LN-A.

FULTON SYLPHON
DIVISION
ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 4, TENN.
Temperature Controls • Balance Devices • Balance Assemblies
Complete Refrigeration, Heating Products, Material

If you write maker identify as IEN - 6549

20 FOOT BARS
Stored and Handled Efficiently

Simple, inexpensive overhead tramrail cranes make it easy to handle long, unwieldy bars and store them in racks where readily found. One man can easily and quickly place a heavy bar into or take out of storage and deliver to any point covered by the crane.

GET THIS BOOK!
BOOK NO. 2008
Packed with valuable information

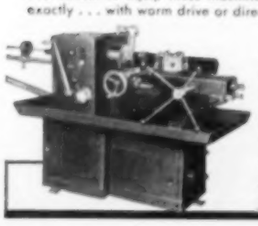
Wherever materials are moved Cleveland Tramrail offers possibilities of tremendous savings.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4221 East 285th Street, Wickliffe, Ohio
CLEVELAND TRAMRAIL

If you write maker identify as IEN - 6550

No. 601 "RAPIDUCTION"
the SIMPLIFIED LATHE

You can train new operators in double-quick time on Oster "RAPIDUCTION" Lathes. Optional features make it economical to equip these machines to meet YOUR needs exactly . . . with worm drive or direct drive . . . with 6-position turret or single tool post . . . with 2-speed or 4-speed motor . . . and other options. Automatic chuck capacity: 1½" round bar. Catalog No. 601 sent promptly. Write:



THE OSTER MFG. CO.
2053 EAST 61st STREET
CLEVELAND 3, OHIO

If you write maker identify as IEN - 6551

CUT STEAM COSTS

SAVE FUEL and MAN-HOURS!

Thousands of Powermaster users are now getting top efficiency and low-cost steam or hot water for processing and heat after replacing out-of-date boilers with this modern, fully automatic, "packaged" steam generator.

- High efficiency cuts operating costs as much as 40%
- Packaged design saves excessive installation costs
- Automatic operation frees engineer for other duties
- Mounted on steel base—no bricking required
- Delivered fully wired and factory-tested
- Prompt service by factory-trained men

15 to 500 HP—FOR HOT WATER AND FOR STEAM UP TO 250 P.S.I.—for light oil, heavy oil, gas and combination gas oil firing. Built to A.S.M.E. specifications and approved by Underwriters' Laboratories.

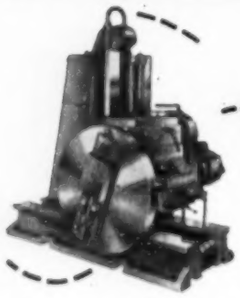
FREE CATALOG MAILED PROMPTLY

ORR & SEMBOWER, INC.
850 Morgantown Rd. Reading, Pa.

If you write maker identify as IEN - 6552

FORNEY

BORING and FACING MACHINE



- ★ Boring
- ★ Facing
- ★ Milling
- ★ Tapping
- ★ Drilling

WRITE FOR NEW BULLETIN

Designed to eliminate conventional overhang for necessary bar travel providing greater resistance to bending stresses when boring — greater rigidity when milling — increased capacity when facing. Numerous applications can be made in boring, facing, drilling, tapping and milling. Duplicator attachments available. Standard model weighs 10,000 pounds.

FORNEY'S INCORPORATED
Manufacturers of Special Machinery Since 1910
ELM ST. NEW CASTLE, PENNSYLVANIA

If you write maker identify as IEN - 6553

Handles ANY Job Requiring a Baked Finish

Despatch FINISH BAKING OVENS

Minneapolis Honeywell Regulator Company operates a number of Despatch Ovens for various jobs. The operator running the above RS-4 Electric Finish Baking Oven, for baking finishes on relay cases, is particularly enthusiastic. He likes the accurate temperature control, ease of loading and avoidance of heat loss. He figures that the RS Oven, installed in 1946, paid for itself years ago through the saving in drying time. Does your operation require controlled, uniform heat up to 500°?

Write for the Despatch RS Bulletin.

DESPATCH OVEN CO.

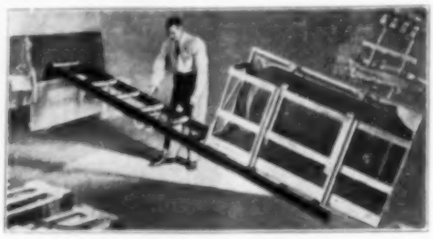
Manufacturers of ovens for: Paint Finishing . . . Dehydrating . . . Curing . . . All Industrial and Laboratory Applications.

337 DESPATCH BLDG., MINNEAPOLIS 14, MINN.

If you write maker identify as IEN - 6554

CONVEYING . . Hand operated loader handles boxes, crates over rollers

Source: BELSAW MACHINERY CO.
313-17 Westport Road, Dept. 102, Kansas City 2, Mo.



Locks against reverse action

New combination of roller-conveyor section and a hand-operated winch provides a means to pull and elevate loaded boxes and crates into and out of trucks and cars where no loading dock is available. The assembly weighs 149 pounds. The rollers are assembled in 3½ in. steel channels. Overall length is 10 feet. The winch is a two-speed unit with 9 to 1 and 3 to 1 ratios. It operates a ¼-in. wire rope. The winch bearings are bronze. The rollers ride on ball bearings.

If you write maker identify as IEN - 6555

STRAIGHTENING . . Roll type machine for strip, tube, wire, motor drive

Source: DURANT TOOL SUPPLY CO.
153-57 Orange St., Providence 3, R. I.

The work feeds through

The company announces development of a motor-driven slack-controlled assembly of its previously developed press-feed-driven straightening equipment. The new machine with its individual drive is available in a range of widths from 2 to 12 in. with 5 to 9 straightening rolls. It also is made for wire from $\frac{1}{16}$ to $\frac{5}{16}$ in. in diameter with 5 to 11 straightening rolls.

The motor connects by speed reducer and chain. It is controlled by a counterweighted arm riding on the material being straightened so excess slack will shut the motor down until the slack has been taken up at the point of use. The assembly includes a floor stand. The drive equipment can be applied to the company's standard straightening machines now in use as well as to new ones.

Identify as IEN - 6556

Synthetic rubber in free-flowing powder form mixes with asphalt to provide a new road-surfacing material. It may turn out to be a major material in future super-highway construction. It resists the stripping action of water and frost, can be handled and applied readily.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6557

NYLINED*

BEARINGS

With SMOOTH, TOUGH DuPONT NYLON

SOLVE MANY BEARING PROBLEMS

NYLINED bearings have a film liner of DuPont NYLON within an inexpensive metal sleeve. This enables low-cost quantity production and fabrication of small quantities to customers' specifications without a mold for the sleeve.

"A BETTER BEARING AT A MODERATE COST"

- Longer life
- Lower friction coefficient
- Superior without lubrication
- Resist chemical attack
- Outstanding abrasion resistance
- Dampen mechanical vibration
- Suitable for close fits
- Non-contaminating
- Smooth, silent operation

Write for Directions and the name of your local representative.

THOMSON INDUSTRIES, INC. Dept. 8
MANHASSET, NEW YORK

Also Manufacturers of BALL BUSHINGS . . . the Ball Bearing for Linear Motions

If you write maker identify as IEN - 6558

THERE'S SAFETY IN STRENGTH!

SAF-T-CUT

SAF-T-CUT stamina stems from imbedding sharp-edged abrasive particles in tough, resilient nylon. Metal working men seeking a light-weight wheel for rugged stock removal, find it in Bay State's reinforced SAF-T-CUT Disc-wheel.

SPECIFY SAF-T-CUT FOR A SAFE STRONG ABRASIVE PRODUCT

BAY STATE

Bay State Abrasive Products Co.
Westboro, Massachusetts

Branch Offices and Warehouses—Chicago, Cleveland, Detroit, Pittsburgh
Distributors—All Principal Cities
In Canada: Bay State Abrasive Products Co. (Canada) Ltd., Brantford, Ontario

Send for information, printed Big Three catalog

If you write maker identify as IEN - 6559

BEARING LIFE EXTENDED 1,013 HRS.

with NEW

ALEMITE OIL-MIST

AUTOMATIC LUBRICATION SYSTEM

BEFORE Oil-Mist: Spindle bearings on a grinder at a leading manufacturing company* were able to operate only 100 hours without replacement. Replacement cost of a complete spindle was $90, or $18 for new bearing replacements. *Plus* 3 hours down time. *Plus* labor costs.

AFTER Oil-Mist: The same grinder has been running 1,113 hours—*and the spindle is operating as satisfactorily as if new bearings had just been installed.* After deducting the cost of Oil-Mist plus installation, this one unit has shown a savings of over $600!

what is... OIL-MIST?

It is a new, unbelievably simple lubrication system that atomizes oil into mist and distributes it through tubing to bearings. Oil-Mist bathes all bearing surfaces with fresh, clean, cool oil film. Uniformly maintains oil film on plain and anti-friction bearings, gears and chains regardless of variations in load, temperature or speed! No "peaks and valleys" of lubrication.

Fully automatic, Oil-Mist eliminates waste and the uncertainties of the "human element." Extends bearing life as much as 17½ times. Seals bearings against dirt and abrasives. Cuts oil consumption as much as 90%. Greatly reduces the number of oils needed.

A PRODUCT OF SW STEWART WARNER

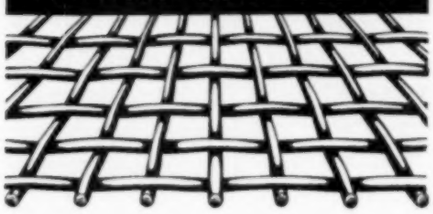
Get the facts NOW!

Just out! This new catalogue brings you the complete story on Oil-Mist. Specifications, models, typical applications, actual case histories. Get yours now. Write Alemite Division of Stewart Warner, Dept. K-62, 1850 Diversey Parkway, Chicago 14, Illinois

*Name on request

If you write maker identify as IEN - 6561

CAL-WIC WIRE CLOTH



meets all STANDARD and SPECIAL requirements

Either as original equipment or for specialized uses in filtering, screening, grading, cleaning or processing, Cal-Wic Wire Cloth is available in the right weave, mesh and weight to give you long-wearing, dependable service.

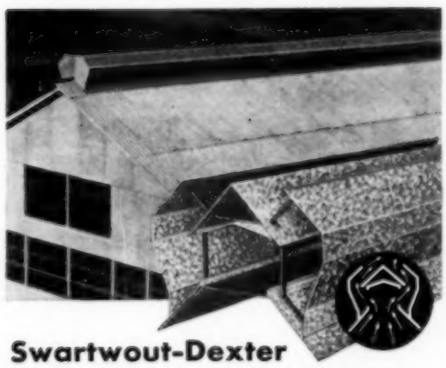
Made in different types of metals and alloys for high resistance to chemical action, corrosion, abrasion and temperature extremes.

For additional information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Clinton, Massachusetts

CAL-WIC INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION
CFI

If you write maker identify as IEN - 6562



Swartwout-Dexter

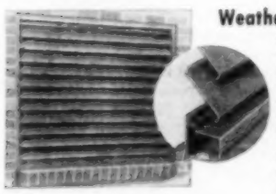
Heat Valve® Roof Ventilator

brings simple, practical ventilation to industrial buildings everywhere

"Heat Valve" as originated by Swartwout and installed throughout industry on almost every type of building means economical, efficient *natural flow* ventilation.

As a continuous opening it is particularly popular for ridge ventilation on peak roofs or for sawtooth construction. But it is equally efficient in shorter sections, on flat or slope roofs or on skylights.

Heat Valve design features short air travel with minimum friction; compact design; effective adjustable damper control. It supplies large air-moving capacity per square foot of opening — at economical cost. Completely weatherproof. Made in 10 standard throat sizes. Write for Folder 336B.



Weatherproof Louvers

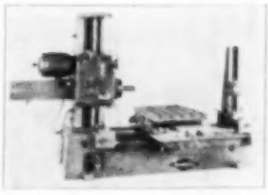
Swartwout Airlouvers are custom-made for each job *without premium cost.* Adjustable and fixed styles available in wide range of sizes. Overlapping blades, sturdy channel frame.

18511 Euclid Avenue, Cleveland 12, Ohio
The Swartwout Co.
Roof Ventilators and Ventilating Louvers
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

If you write maker identify as IEN - 6564

BORING . . Horizontal machine 3-in. spindle, 34 by 25-in. work table

Source: DIAMOND MACHINE TOOL CO.
3425 E. Olympic Blvd., Los Angeles 23, Calif.



Control centers at spindle head

Type AL22 is a new 3-in. horizontal boring mill in the company's line of machine tools. It employs a 10-hp. motor, provides 16 spindle speeds and 18 feeds with rapid traverse in all directions. Maximum spindle movement is 32¼ in. for a boring operation. The spindle nose carries a Morse No. 5 taper and is fitted for a 25-in. faceplate.

The work table measures 34¼ by 25¼ inches. It has longitudinal travel of 45¼ in. with the outboard bearing support in place. This can be increased to 57⅞ in. by removing the support. Cross feed is through 24 inches. Maximum distance spindle to table is 29⅞ inches. Maximum distance faceplate to outboard bearing is 70 inches. Weight is 10,100 pounds.

If you write maker identify as IEN - 6565

CONVEYING . . Stitched canvas belt to handle abrasive and oily materials

Source: MAIN BELTING CO.
1239-43 Carpenter St., Room 153, Philadelphia 47, Pa.

Supplied for specified use

Armadillo is a new stitched canvas belt with a hard glass-like flexible coating able to shed oil freely. The coating also is resistant to abrasion and able to stand up in handling work that tends to cut into its surface.

Representative applications are in conveying oily steel scrap, steel tote pans, steel stampings with sharp edges, glass, artillery shells, cartridges. It is made with 37½ or 39-oz. duck and is available in desired widths to 132 inches. It can be supplied in any length. Trade name is Protecto-Coat.

If you write maker identify as IEN - 6566

TESTING . . Electronic power supply rates 15 amp., 0 to 28 volt dc.

Source: ELECTRO PRODUCTS LABORATORIES INC.
4504-B N. Ravenswood Ave., Chicago 40, Ill.

List is $195

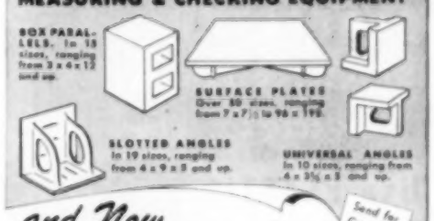
Model NF is a new continuously-variable dc power supply for input from 110-volt 60-cycle ac. It is designed to test and service electronic equipment, telephone circuits, laboratory instruments. Continuous voltage adjustment is by turning the control knob on a Superior Powerstat mounted on the face.

The assembly employs selenium rectifiers for continuous duty at 15 amperes. Rating increases to 25 amp. on intermittent load. At 15 amp. the ac. ripple is within 1 per cent. Dimensions are about 14 by 14 by 10 inches. Weight 71 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6567

Dependable
MEASURING & CHECKING EQUIPMENT



and Now
HAND WHEELS, KNOBS, HANDLES
Cadmium Plated READY TO DELIVER
Non-rusting — good looking

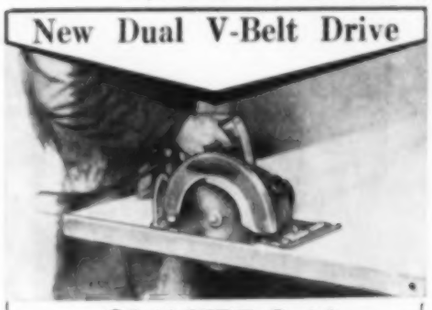
Send for Complete Catalog

We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION
6761 E. McNichols Road • Detroit 13, Mich.

If you write maker identify as IEN - 6568

New Dual V-Belt Drive



SYNTRON
PORTABLE
ELECTRIC SAW

The new Dual V-Belt Drive eliminates gears—provides shock-absorbing, velvet-smooth operation for faster, cleaner cutting. Cuts and rips wood; cuts and scores brick, tile and other materials with 6000 RPM full load blade speed.

Its high speed feeds the blade in—no need to push or ram. 2 1/16" cut with an 8½" blade—weighs 19 lbs.

Write for FREE Catalog Folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

If you write maker identify as IEN - 6569

CASTELL
PUSH BUTTON LOCKTITE
the perfectly balanced holder
(black or colored)

An indispensable drawing tool for professional men everywhere — because LOCKTITE holds lead in bulldog grip, prevents it sliding back into holder. Reduces smearing and smudging, because your fingers never touch the graphite, except when refilling. Order from your Dealer today.

No. 9030
CASTELL
Refill
IMPORTED
Master Degree Leads
7B to 9H

Reproduces more clean, sharp blueprints than any other lead.

The same wonderful imported leads that you get in the CASTELL wood pencil. Usable in all standard holders. Also available in red, blue, green, yellow, carmine, orange, white and silver.

CASTELL
the drawing pencil with the Master Degrees

A.W. FABER-CASTELL
PENCIL COMPANY INC. NEWARK, N.J.

If you write maker identify as IEN - 6570

Pheoll
THREAD-CUTTING SCREWS
1. Cut Their Own Thread—Fit Perfectly
2. Eliminate Tapping Time—Tap Cost
3. Resist Vibration—Will Not Loosen
4. Are Driven Easily By Hand or Power
5. Used Anywhere—Interchangeable

Other Profit Producing Pheoll Products
Knurled Nuts • Wing Nuts • Swing Cap Screws • Machine Screws
Phillips Recessed Head Screws
Square Head Set Screws
Tapping Screws

Pheoll Thread-Cutting Screws are easily driven into untapped, drilled or punched holes. They automatically cut their own mating threads when driven which insures maximum thread contact. This results in tighter fit and increased holding power. The rolled threads of these hardened screws conform to established dimensions and tolerances and are interchangeable with machine screws.

Unit production cost is lowered when these screws are used in assembly work. Now is the time to investigate what Pheoll Thread-Cutting Screws will do for you. Outline your fastening problems and the materials you wish to join.

Pheoll MANUFACTURING COMPANY • 5700 Roosevelt Road Chicago 50, Illinois
SCREWS • NUTS • BOLTS
Industrial Fasteners and Holding Devices

If you write maker identify as IEN-6571

If you write maker identify as IEN-6572

From the seven basic Clair designs, a custom-made machine can be developed to give greatest efficiency in your surface finishing operation. With totally enclosed, abrasion-proof hydraulic circuits and adjustable controls, Clair Machines provide the precision and trouble-free operation necessary for efficient surface finishing on a production basis.

Write for technical data

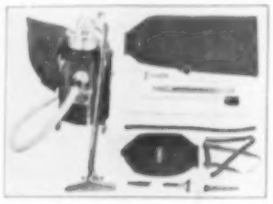
CLAIR MANUFACTURING CO., INC.
Specialized Machine Equipment For Glazing and Polishing Operations
OLEAN, N. Y.

If you write maker identify as IEN-6573

If you write maker identify as IEN-6574

CLEANING . . Portable vacuum machine, wet or dry operation, also blows air

Source: MULTI-CLEAN PRODUCTS INC.
2281 Ford Parkway, St. Paul 1, Minn.



Cleans most anything

Vac-Blower Model DB-100 is a new assembly of motor-driven blower, suction tank, hose and tools to develop a suction lift of 46 in. of water for wet or dry cleaning. The blower with its 1-hp. motor can be removed from the caster-mounted housing and employed for suction cleaning with a dust-collecting bag or for blow cleaning operation. Revolving parts are mounted on ball bearings, factory lubricated and sealed. The 12-gal. steel tank is protected inside and out by a coating of enamel. The separated blower-motor unit weighs 15 pounds.

Standard equipment includes a 2 by 2-ft. bag, a bag support rod, a 10-ft. by 1½-in. flexible vacuum hose and a 22-ft. three-conductor rubber cord and plug for connection to a 110-volt 60-cycle ac. line. A standard attachment kit includes a 54-in. curved wand, a 12-in. standard floor tool, a 12-in. standard shoe-plate attachment and a 5-in. upholstery or hand tool.

If you write maker identify as IEN-6575

MILLING . . High-speed cutters seven shapes, ¼-in. shanks, on block

Source: SEVERANCE TOOL INDUSTRIES INC.
740 Iowa St., Saginaw, Mich.

List is $18.30

Set 77 is a new assembly of seven of the company's Midget high-speed shaped milling cutters with ¼-in. shanks. The set has been designed to issue from a tool crib where several can be kept on hand to supply current needs. Each cutter is ground from the solid and can be returned for reconditioning at considerably less than the cost of an equivalent new tool.

Identify as IEN-6576

Your own publicity manager may want to know about a new Publicity Directory, now available in three volumes to assist in selection of publications to carry news of your new products and plant activities. The three classifications covered are consumer, farm and business-trade. Listings total 450, 180 and 1,400 to provide the name and address of each publication, the persons to whom releases should be addressed, the titles of any special publicity columns or departments, the type of material desired, slant, mechanical requirements, circulation. The set of three books lists at $35.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6577

Use PLASTIC DAMBABBIT

Unlike clay compounds, **Dambabbit** is moisture free and not affected by high temperatures. When bearings are poured, no steam is generated—no danger of explosions—NO ACCIDENTS! **Armstrong's Dambabbit** STAYS plastic. It can be used again and again without loss of effectiveness. Protect your maintenance men against nasty burns—save your company money!

SEND TRIAL ORDER NOW
10-lb. Container of Dambabbit only $2.50
Shipping Charges Prepaid

The ARMSTRONG COMPANY
241 S. POST STREET DETROIT 17, MICH.

If you write maker identify as IEN-6578

Investigate LAPPING!
On Metals-Ceramics Quartz and Plastics

Here's What You Can Do With a CRANE LAPMASTER..

With a Lapmaster you can lap different parts in one cycle, lap wide range of parts of different materials in short or moderate production, lap identical parts at tremendous production rates and maintain tolerances to one light band (.0000116"), GET all the facts. Lapping may be the solution to your problem.

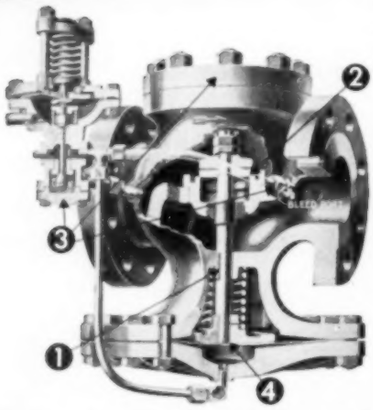
Write for free bulletin I.E.N. 52.

JOHN CRANE
CRANE PACKING COMPANY
LAPMASTER DIVISION
1813 CUTLER AVENUE • CHICAGO 13, ILLINOIS

If you write maker identify as IEN-6579

Here's Why SPENCE REGULATORS

CUT COSTS . . . REDUCE MAINTENANCE



Thousands of installations throughout the country have proved that Spence Pilot-Operated Regulators provide *dependable, trouble-free* pressure and temperature control year-in, year-out. Here are a few of the many Spence features that save you money . . . help keep *maintenance at a minimum.*

1. PACKLESS CONSTRUCTION of all Spence main valves and most pilots *eliminates the need for closely fitted parts* that may stick or bind due to uneven expansion or foreign matter.

2. DURABLE SECO METAL SEATS AND DISCS resist wiredrawing. More than 20 years of experience with SECO Metal *has failed to produce one case where it has been cut by steam.*

3. EASY TO CLEAN WITHOUT DISMANTLING — The seat and disc of the main valve and pilot can be cleaned and any working part removed *without taking the main valve out of the line.*

4. LONG-LIFE METAL DIAPHRAGMS, under usual conditions, never require replacement. The durable spring in the Spence Regulator operates at low unit stress . . . *out of the path of the steam* or other fluid flowing through the valve.

FREE BULLETIN NO. 4000 gives complete data . . . contains full color, fully illustrated description of the operating cycle of a Spence Regulator.

Spence

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

If you write maker identify as IEN - 6581

DON'T SCRAP IT!

LET "GLOVCO" RECONDITION IT
(LEATHER OR FABRIC)

DUST COLLECTOR BAGS • CONVEYOR BELTING
TARPAULINS • DROP CLOTHS • FILTER PADS

At a mere fraction the cost of replacement, we clean and professionally repair these and many other items, restoring them to new usefulness. Our pick-up and delivery plan in most industrial areas eliminates mechanical difficulties making this reconditioning plan work smoothly and to your complete advantage.

Our work glove reconditioning plan includes: pick-up, cleaning and sterilizing, repairing, reshaping, pairing, packaging and delivery. Users of the service record savings up to 49% in work glove costs. We will be glad to demonstrate this service at no cost to you. **Representatives in all industrial areas**

U. S. INDUSTRIAL GLOVE CORP.
9354 Roselawn Ave., Detroit 4, Mich.

If you write maker identify as IEN - 6582

A SHUTOUT . . . . that saved Briggs Stadium from loss by moisture damage

AN IMPORTANT SHUTOUT was scored for Briggs Stadium—home of the Detroit Tigers Baseball Club—by the TREMCO MAN. Water infiltration had already caused concrete spalling, cracked and crazed walls and rusting of reinforcing rods. Considering existing conditions and desired appearance, Tremco 101 Mastic was selected to protect, preserve and beautify.

END TO MOISTURE TROUBLES. Quickly applied by brush and spray, Tremco 101 Mastic forms an elastic impervious coating. It becomes a seamless seal that expands and contracts with temperature changes—completely shutting out driving rain. Applied over brick, concrete, stucco, stone and other surfaces, Tremco 101 Mastic does not become brittle, peel, crack or sag.

PROTECTS, PRESERVES AND BEAUTIFIES. Furnished in a selection of colors, Tremco 101 Mastic both beautifies and seals in one application and lasts for years. The Tremco Man has experience in sound techniques for low-cost prevention of moisture infiltration. He is qualified to recommend the best material and method to cut maintenance of your buildings. Call or write. No obligation. The Tremco Manufacturing Company, Cleveland, Ohio or The Tremco Manufacturing Company (Canada) Ltd., Toronto.

UM-1001

TREMCO THE TREMCO MANUFACTURING CO. CLEVELAND, OHIO

If you write maker identify as IEN - 6583

Can you use DUCTILE BISMUTH WIRE in your product?

Send for your copy of new 24-page booklet, "Ductile Bismuth Wire," giving detail physical properties along with suggested uses and a table of 36 references to the technical literature.

Availability of bismuth metal in ductile wire form opens up new fields for its unique properties and characteristics.

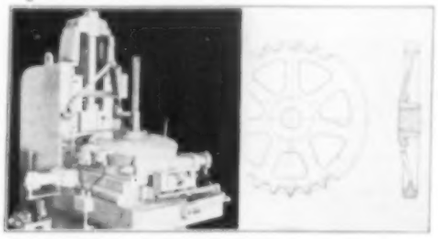
These include resistance change in a magnetic field, voltage change with change in a magnetic field, and high thermoelectric power. Bismuth is the most sensitive metal known for use in thermocouples.

FITZPATRICK ELECTRIC SUPPLY COMPANY
442-46 Irwin St. Muskegon, Mich.

If you write maker identify as IEN - 6584

BROACHING . . Hydraulic machine tooled to taper spline a sprocket hub

Source: COLONIAL BROACH CO.
P. O. Box 37-A, Harper Station, Detroit 13, Mich.



For specified use

New tooling for one of the company's 15-ton, 96-in. stroke pulldown broaching machine makes it possible to produce splines in a tapered hub bore with excellent accuracy.

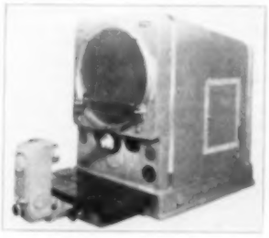
The tooling consists primarily of a hydraulically-operated fixture that rides at an angle to place the cutting position vertical. The fixture takes the work on a machined taper on the outside of the hub to hold it concentric. It shuttles through a maximum distance of ⅝ in. at right angles to the broach. It indexes in automatic sequence.

A cycle is started with the broach in "down" position after the work has been centered and secured by a hold-down clamp engaging two studs. The broach travels upward with the fixture shuttled forward so the teeth will clear. Then the table moves into position for the cut, the broach travels down, the fixture is retracted, indexed for the next spline. The action repeats until all of the splines have been cut. The machine will take work to 42 in. in outside diameter. A hydraulically operated hinged backup brace supports the broach during its cutting stroke.

If you write maker identify as IEN - 6585

GAGE . . Optical comparator, 10X to 100X, mounts a 16-in. screen

Source: PORTMAN INSTRUMENT CO.
10 Manhasset Ave., Port Washington, N. Y.



Color filters can be used

Production fixtures for various classes of work can be mounted on the 6 by 16-in. work stage of this new Olympic Model R-50 comparator. Overlay chart holders can be employed on the circular image screen. The instrument can be operated under prevailing light conditions without need for a screen cover or hood.

Construction includes a Super-Light condenser-lens unit that is cooled by exhaust. Ciptar objective-lens elements. Mounting is on a bench. Dimensions are 20 by 45 by 20 inches. Weight of the new comparator is 350 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6586

BARRETT
***Nifty-Lifter* SYSTEM**
Simple • Safe • Low-Cost

Nifty-Lifter skids are available with platforms (as illustrated). Also—Pipe or Wood Stake type • End Rack type • Box type • Shelf type

The Barrett Nifty-Lifter gives you a complete materials handling system at a surprisingly low cost. Operator merely wheels Nifty-Lifter under lifting horn on skid. Downward handle motion lifts skid legs clear of floor. Further lowering of handle releases latch; load settles gently under full control. Popular skid sizes, 24" to 56" wide, meet any product handling requirement. 1000 to 4000 lb. capacities. Simple, husky, long-lasting. An outstanding value! *Ask for prices.*

BARRETT-CRAVENS COMPANY
4641 S. Western Blvd., Chicago 9, Illinois
Representatives in All Principal Cities

Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

BARRETT
One man does more than 3 or 4 . . . with a Barrett

If you write maker identify as IEN - 6587

GE FUSES

It pays to say "G-E" whenever you order fuses

Whenever you order fuses, make it a point to specify General Electric fuses. They're designed to save maintenance time, provide dependable protection. Check the wide range of applications covered by the G-E fuse line.

G-E RENEWABLE TIME-DELAY FUSES
Three-piece construction for easy handling. For 250 and 600 volts, from 3 amp to 600 amp.

G-E ENCLOSED ONE-TIME FUSES
The accepted standard over the years. For 250 and 600 volts from 1 amp to 600 amp.

G-E PLUG FUSES
Transparent top, easy-to-read ratings—tough glass compound. For 125 volts from 3 to 30 amp.

Section D26-642, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL ELECTRIC

If you write maker identify as IEN - 6588

Your Best Buy in Burs!

S.S.WHITE BURS cut fast, clean and cool and give long-lasting economical service. Cutting edges are keen—and stay sharp. There's a full selection of sizes and shapes of chromed, and carbide burs for cutting brass, steel, wood, hard rubber, bone or any other material that can be bored or milled by sharp-edged hardened steel tools.

WRITE TODAY for 50-page Catalog T-51

It completely describes the full line of S.S. White flexible shaft tools and other industrial products.

THE S.S.White INDUSTRIAL DIVISION
DENTAL MFG. CO. Dept. H, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Bldg., Long Beach, Calif.

If you write maker identify as IEN - 6589

UNIVERSAL
EXPANDED METAL FLOOR TRUCKS

- **Greater Economy**
- **Greater Utility**

MODEL 4-A
Length 60", width 20", height 30".

Literature Mailed Promptly Upon Request

MODEL 4-B
Length 60", width 20", height 48".

Durable, highly maneuverable, economically priced. Designed to meet a wide range of material handling jobs. Rigid angle iron frame. Equipped with four 4" ball-bearing fiber casters—swivel casters centered at front and rear; rigid casters centered on each side. Model 4-B has hinged drop panel on side equipped with positive safety latches.

- Also other types of expanded metal containers in sizes and quantities to customer's specifications.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
SHIPMFIELD, INDIANA, U.S.A.

If you write maker identify as IEN - 6590

ACEC

ACEC Vertical Hollow Shaft Pump Motor

Manufactures ELECTRIC MOTORS for most Industrial Purposes

NOW ON HAND
Integral Horsepower Electric Motors — conforming strictly to NEMA SPECIFICATIONS

FULLY GUARANTEED

MOTORS EXCEEDING 100 HP. BUILT TO ORDER

ACEC—Ateliers de Constructions Electriques de Charleroi, of Belgium—offers American customers wide selection from a diversified line of electric motors.

Conforming strictly to NEMA SPECIFICATIONS, outstanding 3-phase units are immediately available from warehouse stock in the United States, and ACEC Distributors and Service Shops, from coast to coast, are prepared to handle customers' service needs promptly.

Whatever your requirements, write, wire or telephone the nearest ACEC office or representative.

IMMEDIATE DELIVERY from NEW YORK • CHICAGO • KANSAS CITY NEW ORLEANS • DALLAS and LOS ANGELES Warehouses

BELGIAN ELECTRIC SALES CORPORATION
Main Office: ONE E. 53RD ST., NEW YORK 22, N. Y. • PLAZA 8-3105
Los Angeles • San Francisco • Chicago • Kansas City • Cleveland • Dallas • New Orleans • Pittsburgh • Louisville • Washington, D. C. • Youngstown • Savannah • Montreal • Puerto Rico • Mexico City

If you write maker identify as IEN - 6591

EHRCO DIE CASTING SERVICE

January 26th, 1951

Mr. L. King, Pres.,
King Valve Company Incorporated,
Clawson, Michigan

Dear Mr. King:

Sincerely yours,
EHRCO DIE CASTING SERVICE
John R. Ehrhart
John R. Ehrhart
Sales Manager

RING VALVE CO., Inc.

CLAWSON • MICH.

Telephone Lincoln 2-3387

If you write maker identify as IEN - 6592

with AURAND CLEANING TOOLS

Clean off accumulations of scale, paint, rust or any foreign matter from any hard surface with Aurand Cleaning Tools. Toothed cutting wheels, loose pinioned on rotating head chip away accumulations at high speed. Positive depth shoe prevents cutting into permanent surface and assures uniform cleaning of entire area.

Two sizes in electric or pneumatic models.

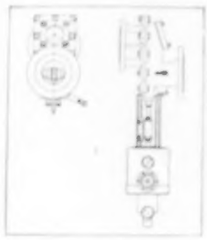
FOR FULL DETAILS, WRITE DEPT. 643

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

If you write maker identify as IEN - 6593

VALVE . . Air operated gate to throttle the flow of slurries

Source: FISCHER & PORTER CO.
5580 County Line Road, Hatboro, Pa.



Plant man's design

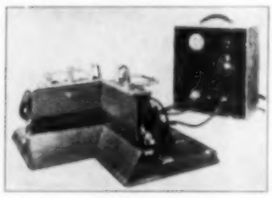
Ratogate trade names a new patented valve in which a stainless-steel gate is operated by pneumatic pressure and positioning control. Gate movement varies the size of a diamond-shaped opening in order to throttle the flow of pulp and paper stock and similar slurries. The valve is made with a stainless-steel body and is equipped with a sight glass through which the operator can observe the action. Flange connections are standard 150-lb. design. Two sizes, 4 and 6 in., are available at once, smaller and larger sizes can be specified.

A feature in the construction is the fact that flow holds the gate against its stationary seat in an arrangement that requires no guides for the gate movement that might offer opportunity for the slurry to clog or set up friction. A water connection at the base of the body permits flushing. Overall height, including the operating mechanism in the 4 in. size, is about 36 inches. Face-to-face dimension is about 11 inches. Range of operation is 13 to 1 with free flow maintained at rates as low as 30 gpm.

If you write maker identify as IEN - 6594

PACKAGING . . Heat sealing machine assembles sealing jaws at 90 degrees

Source: PACKAGING INDUSTRIES
48-52 Church St., Montclair, N. J.



Any specified angle

The company announces development of a new machine in its line of electrically-operated heat-sealing equipment in which two jaws measuring 1 ft. in length, or greater in multiples of 1 ft., are assembled at a 90-deg. angle for simultaneous operation. Control centers at a housing where temperature and interval can be set.

Temperature range is to 500 deg. F. Jaw pressure is to 80 pounds. Dwell for the heating interval is maximum at 15 seconds. The machine can be applied on any heat-sensitive laminated or coated-barrier material. Clamping pressure is pneumatic with connection to a shop air line.

Identify as IEN - 6595

Pilot plant has been set up for continuous coating and impregnation of textiles, papers, films, foils with plastisols, organisols, hydrasols, silicones by Industrial Ovens. It is available to undertake problems for you to prove or develop operations and equipment for your use.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6596

MODELTING Faultless ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

300 Series Double Ball Bearing Swivel Plate Caster with Steel Wheel

NEW! DRAWN STEEL WHEELS FOR LONGER WEAR

Faultless Casters equipped with the new Drawn Steel Wheels provide (1) *longer life*, (2) *greater efficiency*, (3) *at minimum maintenance* and, thus, (4) *lower operating cost per mile*.

Faultless Steel Wheel Casters help industry reduce overhead by maintaining fast, fluid production lines. These precision-made wheels are machined to tolerances typical of fine tools and like any quality equipment, are the best investment for long uninterrupted service. Write for Bulletin No. 52.

FAULTLESS CASTER CORPORATION
Dept. IE-9, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

If you write maker identify as IEN - 6597

Speedex Automatic WIRE STRIPPER

MODEL No. 744-I

★ ONE HAND OPERATION
★ LIGHT WEIGHT
★ SIMPLE TO USE

A heavy duty, automatic wire stripper with a delayed action release which prevents wires from being crushed. Strips wire sizes No. 8 to 30 . . . weighs but 12 ounces. Standard models also available.

NET PRICE ONLY $4.95 ($8.25 LIST)

SEE YOUR DISTRIBUTOR OR WRITE FOR LITERATURE AND COMPLETE INFORMATION.

WOOD SPECIALTY *Manufacturing Co.*
909 Taylor Avenue, Rockford, Illinois

If you write maker identify as IEN - 6598

LOOK JOE !... Make These Cuts with a CLIPPER...Let's Stop "DOWN-TIME" Delays!

NINE MODELS PRICED FROM $265

Any SPECIAL SHAPES
SKEWS, SPLITS, ANGLES, SOAPS

CUT IN SECONDS WITH A *DUSTLESS...* CLIPPER MASONRY SAW

PERFECTLY SMOOTH CUTS
ELIMINATE MIDDEN FRACTURES, EXCESS MORTAR & DOWN-TIME

Speed REPAIR or CONSTRUCTION of your Furnaces, Kilns and Boilers by using a CLIPPER MASONRY SAW

DUSTLESS... MASONRY CUTTING

With the MODEL HD CLIPPER you can choose your cutting method...cut DUSTLESS (wet) in confined areas or DRY when DUST is not a problem. Remember too, there are NINE Clipper Models designed to perform with smooth simplicity and flexibility.

Free Trial

The outstanding policy of FREE TRIAL has been in effect since Clipper invented the world's first masonry saw. Only thru this CLIPPER FREE TRIAL are you guaranteed . . . ACTUAL TEST ON THE JOB . . . FULL SATISFACTION . . . NO OBLIGATION!

PATENTED CLIPPER FEATURES

AUTOMATIC BLADE PRESSURE — Maximum blades last longer. Because Equalizer Spring Automatically cushions blade pressure whether cutting HARD or SOFT materials, gives greater blade economy.

SELECT-A-NOTCH — One man easily adjusts Cutting Head to desired height, whether cutting 12" or 1" material. Operator's hands merely guide. Weight supported by rear tire.

SAVE A BLADE DIAL — Just turn the Save-A-Blade Dial to the material hardness and the pressure Equalizer Spring automatically sets the tension—guarantees faster cutting and longer blade life.

Clipper

FOR CUTTING CONCRETE—ASPHALT
BUILDING FLOORS—STREETS—WALKS
CLIPPER CONCRETE SAWS...
5 MODELS—GAS OR ELECTRIC POWER

MANUFACTURING CO.
KANSAS CITY 8, MISSOURI
PITTSBURGH PHILADELPHIA
ST. LOUIS SAN FRANCISCO
CLEVELAND CINCINNATI
DETROIT ATLANTA
HOUSTON WASHINGTON, D.C.
AUSTIN, TEX. BOSTON
CHICAGO BIRMINGHAM
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TEAR OUT AND MAIL!
CLIPPER MANUFACTURING COMPANY
11 E. 28th St. • Kansas City 8, Mo.
Send FREE Information and Literature on:
☐ NEW CLIPPER MASONRY SAWS ☐ CLIPPER CONCRETE SAW
☐ DUSTLESS Model HD ☐ FREE TRIAL
NAME
ADDRESS
CITY STATE

If you write maker identify as IEN - 6600

Are You Making Full Use of RUBBER PRODUCTS Like These?

Then Find Out About Our Specialty—
VOLUME PRODUCTION OF . . .

Rubber Convoluted Boots, Accordion-type Seals, Boots and Sleeves for Machinery, Bellows, Tubing, Covers, Sacs, Grommets, Caps and Bulbs!

Write Today for FREE Brochure

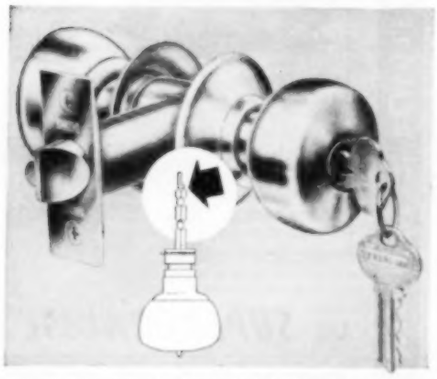
which will show you how others have solved design and production problems with Dipped Rubber Parts—Complete with Pictures and Prints!

Midwest Rubber
COMPANY
17224 Conant Road, Detroit 12, Michigan

If you write maker identify as IEN - 6601

National

Retaining Rings cut costs again!



This handsome new DuaLock, offered by Sargent and Company of New Haven, Conn., is the result of many years of engineering research.

Its simplicity, sturdy safety, ease of application and beauty of design assure a constantly increasing demand. Because of the skill with which fine precision parts are built into this greatly simplified lock it requires only an exceptionally small cross bore.

By using National retaining rings Sargent saves material, weight, space and assembly time—without sacrificing efficiency or strength.

Examine your products—metal, wooden or plastic. Many products as well as many machines can be redesigned to use retaining rings. Groove your shafts instead of wastefully cutting down larger shafts to form shoulders. And groove your housings too.

Our high grade steel rings assure greater savings and greater margin of profit.

Let us show you how retaining rings can do an efficient job for you. These inexpensive, efficient artificial shoulders save time, save weight, save space, save materials, save money.

Write today for descriptive folder of many types of National retaining rings.

THE NATIONAL LOCK WASHER CO.
NEWARK 5, NEW JERSEY • MILWAUKEE 2, WISCONSIN, U.S.A.

If you write maker identify as IEN - 6603

FASTENING . . Blind rivet requires access to one side of work

Source: SOUTH CHESTER CORP.
1401-5 Finance Bldg., Philadelphia 2, Pa.

Driving pin spreads shank

New size with ¼-in. shank has been added to the company's previously developed $\frac{3}{16}$ and ⅛-in. blind rivets. The design is characterized by a split shank and a drive pin that extends into the shank from the head in a center hole that leads into but not through the split portion. When the rivet is placed in the work and the pin driven flush with the head, the shank is spread on the opposite face to complete the fastening operation. Modified brazier and 100-deg. countersunk heads are included. Grip length is $\frac{1}{32}$ to $\frac{19}{32}$ inch.

If you write maker identify as IEN - 6604

INSULATING . . Vermiculite material mixes with water for buried pipe lines

Source: TEMP-O-CRETE
225 Lafayette St., Room 11, New York 12, N. Y.

Ask for bulletin
Temp-O-Crete

New insulation is supplied in dry powdered form to mix with water on the job and pour around piping into forms after the piping has been placed and tested. A water-proof Ironcoat concrete armor is applied over the tops and sides to complete the work. Under certain conditions prefabricated sections are employed to supplement the on-the-job pouring.

Thickness of 4 to 6 in. provides good thermal protection. Minimum compressive strength is 70 lb. per sq. in. when the material has set. This strength is increased to 3,000 lb. per sq. in. by the concrete armor covering so no supplemental protection is required under heavy traffic. The material is chemically inert and moisture proof. It withstands temperatures to 1,800 deg. F. in service.

If you write maker identify as IEN - 6605

DRYING . . Refrigerating unit to remove excess moisture from a room

Source: ABBEON SUPPLY CO.
179-17 Jamaica Ave., Jamaica 32, N. Y.

Capacity is about 13,500 cu. ft. of closed space for this new Model WA-5 refrigerating-type dehumidifier. It plugs into a 110-volt 60-cycle ac. power source. It measures about 13 by 13 by 30 inches and weighs 86 pounds. Moisture-laden air is drawn into the housing by a motor-driven fan and is passed over a refrigerating coil where the moisture condenses. As it collects it drops into a pan in the base of the housing. This the base of the housing. This pan slides out for emptying.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6606

HI-HEAT

BLUE M LINE

MODEL AHH-19 GRAVITY CONVECTION OVEN

ALL ELECTRIC * ALL STAINLESS STEEL * FULLY AUTOMATIC TEMPERATURE RANGE FROM 100° F TO 800° F

Equipped with 3 heat switch for low, intermediate, and high temperatures. Double walled housing and door of polished stainless steel inside and out. All six sides have 5" of dual MODELLA insulation. Unconditionally guaranteed double-bank Modella heating element insures positive temperature uniformity. Two stainless steel shelves that are adjustable and removable.

Model AAH-19: Inside dimensions: 19" W x 15" H x 18" D
Current consumption: 18 amps on 230V.
Voltage: 230/1 ph./60 cycle A.C.
Also available in 800 F series:
Model AHH-12...12" x 12" x 12" I.D. $495.00
AHH-16...16" x 16" x 14" I.D. 590.00
AHH-24...24" x 24" x 20" I.D. 810.00
* Other models for 1000° F and 1200° F operation

$690.00

* CONTACT YOUR LOCAL DEALER or

BLUE M ELECTRIC CO.
306-8 W. 69th ST. CHICAGO 21, ILL.

If you write maker identify as IEN - 6607

LOOK HERE ➡

for standard metals with good electrical and electronic properties

This latest revised edition of "INCO NICKEL ALLOYS FOR ELECTRONIC USES" is just the thing to provide you with valuable fingertip information on the right alloy for your electronic or electrical design.

- It contains a summary of the various nickel alloys for use in electronic and electrical applications.
- It gives a composition breakdown of the alloys and discusses the general characteristics of each.
- It lists typical uses for each alloy and describes the forms produced.

As you know, Nickel is essential in defense; but if you have a redesign problem to give longer service life in electrical or electronic equipment – or a new product in the making, it's a safe bet you will find new and useful information on Nickel and Nickel Alloys in this up-to-date booklet. Send for it now. Use the handy I.E.N. reply card to ask for your free copy.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

If you write maker identify as IEN - 6608

ROLLAWAY SEMI-LIVE SKIDS AND JACKS

FEATURING THE **RE-NU TOP**

Steelbound Rollaway Skids combine the best features of bolted and welded designs. The frame supporting members are arc-welded, and the renewable hardwood deck is tightly clamped with steel bolts of extra tensile strength. Welded in, heat-treated, steel connecting pin. Semi-steel rubber-tired or Flor-Sorr wheels with Hyatt roller-bearings, heat-treated steel axles.

CAPACITIES:
1500, 2500, and 5000 POUNDS
YALE AND TOWNE ROLLAWAY JACKS are stocked at the Lanham Company's plant and are sold and shipped directly from Louisville for use with ROLLAWAY SKIDS.

SECTIONAL BINS — RE-NU TOP SKID PLATFORMS — SKID BOXES

THE LANHAM COMPANY
1405 S. 12th St., Louisville, Kentucky

If you write maker identify as IEN - 6609

25-TON industrial handyman

Koehring 304 Cruiser Crane combines 25-ton lift capacity with rubber-tired mobility . . . has shuttle speed of 4.8 m.p.h. One man controls both travel and crane operation from cab. Standard 30 ft. boom extends to maximum 110 ft. with jib . . . has power boom lowering. Other Koehring sizes: 7½ to 70½ tons. For more complete information, write

KOEHRING Company
Milwaukee 16, Wis.

KOEHRING Cranes

If you write maker identify as IEN - 6610

Tells How To

clean raw water
reclaim process water

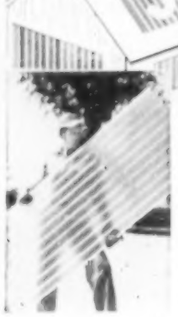
Cuno FLO-KLEAN strainer makes dirty water fit for industrial use, at rates up to 20,000 gpm. Abrasion- and corrosion-resistant. Can be installed in a remote place and forgotten. Some users have saved enough to pay off installation cost in a few months!

Write for FLO-KLEAN bulletin. Cuno Engineering Corporation, Dept. 694F, South Vine Street, Meriden, Conn.

CUNO *Fluid Conditioning*
Removes More Sizes of Solids from More Types of Fluids

If you write maker identify as IEN - 6611

NOW! RESOLITE WITH RESOLITE



TRANSLUCENT STRUCTURAL PANELS

Resolite makes large skylight and wallight areas economical for corrugated industrial buildings because no extra framing is required either for support or weatherproofing — it nests with any standard corrugated sheet. Resolite permits substantial savings in plant lighting by its efficient diffusion of daylight through the building interior. Structurally rugged, chemically immune to weather extremes and most industrial fumes, Resolite gives long life without protective treatment. Resolite is molded in six colors to all standard sheet sizes and corrugations. Molded polyester resin reinforced with Fiberglas mat, the material is shatter-proof and can be worked with ordinary tools. **Excellent for Interior Partitioning** in office or home, for shower and hood stalls, and decorative architectural uses.

Write for free literature

RESOLITE CORPORATION
ZELIENOPLE, PA.

If you write maker identify as IEN - 6612

For Immediate Shipment

14 sizes — ⅛" to 4" O.D. — in stock at all times for immediate shipment. Facilities and engineering skill immediately available for special specification jobs.

CURTIS UNIVERSAL JOINTS

Specialists in Universal Joints for over 30 years, Curtis offers more than just time saving availability. Made of the finest alloy steels, accurately machined — with either solid or bored hubs — they may be easily applied to most universal joint needs, ranging from instrument controls to heavy steel mill applications.

ONLY CURTIS OFFERS ALL THESE ADVANTAGES

Availability — 14 sizes always in stock.
Simplicity — fewer parts, simpler construction.
Government Tests — complete equipment for government tests in our plant.

Write today for free engineering data and price list

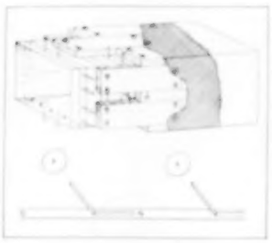
CURTIS UNIVERSAL JOINT CO., INC.
7 Binnie Avenue, Springfield, Mass.
As near to you as your telephone

A MANUFACTURER OF UNIVERSAL JOINTS SINCE 1919

If you write maker identify as IEN - 6613

FASTENING . . Metal strapping presents insulation anchoring fingers

Source: A. J. GERRARD & CO.
1948-52 Hawthorne Ave., Melrose Park, Ill.



Fingers form anchor points

Finger Strap is a new ⅝-in. strapping made of plain steel, galvanized steel, No. 430 stainless steel or Monel Metal in thicknesses from 0.015 to 0.025 inch. Pointed fingers measuring ⅝ in. in width are cut through the strapping except at their base ends so they can be bent up at right angles to the run of the material after it has been secured around a tank, a duct or a pipe by means of the company's Steelbinder strapping tool. The material also can be nailed or secured by screws to a wall or other flat surface.

Insulating material can be impaled upon the fingers as they stand at 90 degrees. Then a slit washer is slipped on the protruding tip and the tip is bent back to complete an assembly. Finger length is 1⅝ to 4½ inches.

If you write maker identify as IEN - 6614

MARKING . . Hand tool mounts inked rubber type wheel

Source: ADOLPH GOTTSCHO INC.
6-D Terminal Road, Hillside 5, N. J.

Ink as specified

No. 601 is new design in the company's Rolamarker line of rubber-type ink marking tools. It imprints a line ⅛ in. in height by 8 in. in length in a continuously repeating pattern over a work surface such as a bar or tube. The tool can be employed to identify material as it is received from a mill or warehouse. By marking its complete length the identity is not lost when a portion is cut off. An ink wheel and a transfer wheel keep the type correctly inked. The type themselves are the company's grooved base design to anchor in the wheel.

Identify as IEN - 6615

Electronic "ear" that is deaf to all but a selected electronic tone or predetermined combination of tones and a tone transmitter is under development at General Electric Company for remote control, selective communicating. Conditions at remote points can be signaled by the transmitter using wire or radio and received at a central station.

The information thus obtained can be re-transmitted in the form of corrective tones to distant motors, relays, signal receivers. Each tone or combination will act only upon the receiver cars tuned for the specific purpose. All others remain "deaf" until their tone comes through.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6616

HOWE Teleprint

THE REVOLUTIONARY ELECTRONIC REMOTE WEIGHT RECORDER

Here is the latest development in the scale and weight printing fields! The Howe Teleprint is available for use with Howe Tape-Drive Dials for Motor Truck Scales. It will record weights on a wide variety of tickets, forms, tapes, and can be located up to 1,000 feet from the scale.

For further information about this most important contribution to increased weighing accuracy — Write for descriptive folder — Teleprint Form No. 681, Dept. IE-6.

SALES AND SERVICE BRANCHES IN ALL PRINCIPAL CITIES

The HOWE SCALE Co.
RUTLAND, VERMONT

If you write maker identify as IEN - 6617

Get Laboratory Accuracy in Formulas . . . at the *Production Level!*

Sizes ⅛" to 3" in a variety of suitable materials. Option on type of register. Automatic shut-off control available.

The liquid content in the formula so carefully developed in your laboratory can be exactingly controlled in production when Rockwell meters are assigned to the job. You'll get the highest measurement accuracy while saving materials, labor and money. In addition your accountants will gainfully use the records Rockwell meters provide for inventory and cost control. Write for full details.

ROCKWELL MANUFACTURING COMPANY
Dept. B3, 400 N. Lexington Ave., Pittsburgh 8, Pa.

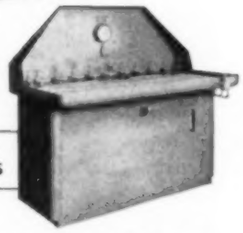
If you write maker identify as IEN - 6618

SUPERDRAULIC

PUMPS • VALVES • TRANSMISSIONS • REMOTE CONTROLS

HYDRAULIC POWER UNITS

ENGINEERING FABRICATING

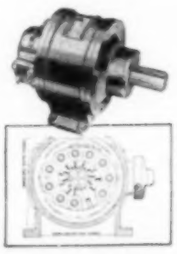


HYDRAULIC TEST STANDS

Let *SUPERDRAULIC* Engineers do the job for you

- Our specialized engineering and manufacturing knowledge is available to you for the designing and production of your power units and test stands. Superdraulic designs take into consideration every requirement and limitation of your job. Units can be furnished complete in every detail including motors, pumps, valves, reservoirs, etc.

FAMOUS SUPERDRAULIC HIGH PRESSURE PUMP



Develops up to 60 H.P. at 5,000 P.S.I. Let us quote on your requirements.

Superdraulic CORPORATION
14256 WYOMING AVE. • DETROIT 4, MICH.

If you write maker identify as IEN - 6620

VALVES THAT DON'T LEAK!

No matter what flows through your pipeline, the valves on that line WON'T LEAK if they're DeZurik Easy-Operating Plug Valves.

DeZurik rubber-faced plugs seal dead-shut on anything from gas to slurries—they do it time after time, in plant after plant, through long, tough usage, without lubrication or adjustment. Write today for free catalog showing full range of sizes, types and metals.

A PIPE-DREAM FOR ENGINEERS

De ZURIK SHOWER CO.
SARTELL, MINN.

ENGLISH MANUFACTURER, Millspaugh, Ltd., Sheffield

If you write maker identify as IEN - 6621

there's a 'right' tool for every job

and

a 'right' fastener...

You wouldn't intentionally slow down your production lines with inefficient tools or use the wrong machine for the job at hand. Isn't it equally logical to make sure that every fastening job is done with a fastener that is "just right"?

Differences in hardness and thickness of the tapped material require selection of the right type of tapping screw thread. This, in turn, works best with selection of the right hole size.

Lamson fastener engineers can advise you how to reduce the variety of fasteners and sizes at each assembly station, cut costs and improve assembly. Lamson control of quality and Lamson design produce low drive torques—high strip torques. Solve your fastening problems with Lamson Tapping Screws.

...specify Lamson tapping screws

Lamson & Sessions

The LAMSON & SESSIONS Co.
1971 West 85th St. • Cleveland 2, Ohio
CLEVELAND and KENT, OHIO • BIRMINGHAM • CHICAGO

If you write maker identify as IEN - 6622

BARCO High Pressure SWIVEL JOINTS

for HYDRAULIC SERVICE
Tubing or Pipe

NO BINDING—A Barco design advantage! "Side Flexibility" in joint compensates for misalignment; simplifies and speeds up installation.

LEAKPROOF—A choice of precision-made seals for highest pressures, temperatures, and steam or corrosive service.

SMALL, LIGHT, COMPACT—Standard models for ¼", ⅜", ½" and ⅝" O.D. tubing (A/N, flared, or Ermeto) or comparable size pipe threads. Angle or straight connections.

PRESSURE SAFE—The seal will not break or blow out suddenly. Built to 3000 psi working pressure standards, steel or aluminum. *Send for literature.*

BARCO MANUFACTURING CO.
1838C Winnemac Avenue, Chicago 40, Illinois
In Canada: The Holden Co., Ltd.

If you write maker identify as IEN - 6623

DRILLING . . Turret type machine mounts six selective speed spindles

Source: BURG TOOL MFG. CO.
3741 Durango Ave., Dept. IEN, Los Angeles 34, Calif.

One second to index

New design of the company's Model-A No. 2 machine, previously described IEN-5018-51, now includes a safety clutch between the main drive shaft and the individual dog clutches on the six spindles in the machine turret. This clutch will release in the event of overload to protect the tools being driven at the time the overload occurs. As in the previous machine rating is to ¾ in. in steel. Stroke measures 8 inches. Throat dimension is 11½ inches. Vertical table adjustment is through 18 inches. The machine occupies floor space measuring 34 by 36 inches. It stands 6 ft. in height and weighs 1,980 pounds.

Drive by the 1 or 2-hp. 3-phase 60-cycle two-speed motor is by V-belts to a Warner electric clutch in two-speed assembly. This clutch operates in connection with knobs on a control drum that are moved to actuate switches that cause one or the other of the clutch units to engage for high or low-speed drive transmission. These two speeds, with the 1,800 and 900-rpm. selection at the motor itself provide four speed changes for each spindle. The six spindles provide pairs with maximum speeds at 3,000, 2,000 and 1,200 rpm. Corresponding minimum speeds are 500, 350 and 225 rpm.

The turret is indexed by power drive when its slide is moved up to the top of the stroke. Only the spindle in operating position is connected into the drive. Adjustable stops at the top of the slide permit setting the drilling depth. Spindle noses are machined to carry ¾-in. 16-thread ends for chucks, sleeves or threading heads in interchangeable arrangement. The table measures 17 by 23 inches. It is equipped with clamping slots and a coolant trough.

If you write maker identify as IEN - 6624

CLEANING . . Solvent immersion unit for metal parts and complete assemblies

Source: VAPOR BLAST MFG. CO.
3023-27 W. Atkinson Ave., Milwaukee 16, Wis.

Liquidyne Machine

Welded tank measuring 50 by 30 in. in length and width is equipped with a compartment at the rear in which is a motor-driven impeller. The tank is designed to hold solvent to remove heavy caked grease, production oils, encrusted dirt from work pieces or from complete assemblies such as automotive engines.

Work is introduced on platforms or in baskets by means of overhead handling equipment. The tank can be operated cold or steam or gas heat can be specified. The assembly includes suitable drains and means for clean-out of accumulated material.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6625

MEAD IMPACT MILLS SINCE 1877

PULVERIZE GRINDABLE AND UNGRINDABLE MATERIALS

FAST CONTINUOUS PRODUCTION
QUIET
LOW MAINTENANCE
5 VERSATILE MODELS
WIDE RANGE of MATERIAL & PARTICLE SIZES
HIGH SPEED IMPACT

WET or DRY SAMPLES of YOUR MATERIAL TEST RUN at no charge.

PATENT PENDING

COMPLETE ENGINEERING AND INSTALLATION AVAILABLE

Write for literature...

MEAD MILL COMPANY
14620 EAST SEVEN MILE ROAD
DETROIT 5, MICHIGAN • DREXEL 1-0200

If you write maker identify as IEN - 6626

Send For Your Free Copy

SLIPPING ACCIDENTS?

Write for Booklet A-3

This Free 8-page Booklet Shows You How To End Them with A.W. ALGRIP

ABRASIVE ROLLED STEEL FLOOR PLATE

- A.W. ALGRIP is the world's only Abrasive Rolled Steel Floor Plate.
- Wet or dry, ALGRIP prevents slipping—even on steep inclines!
- Light, tough—thinner sections can be used.
- Easy to install—needs no maintenance.
- Over 1001 plant and product applications—wherever men walk or climb.

THERE'S NEVER A SLIP ON A.W. ALGRIP

A.W. ALGRIP
ABRASIVE ROLLED STEEL FLOOR PLATE
Product of ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Over 175 Years of Iron and Steel Making Experience

Other Products: FERRACLAD Stainless Clad Steel • A. W. SUPER DIAMOND Floor Plate • Plates • Sheets • Strip • Alloy and Special Grades

If you write maker identify as IEN - 6627

Delpark FULL-FLOWING SELF CLEANING COOLANT FILTERS
FOR SOLUBLE OILS and CUTTING OILS

A gravity filter, complete and continuous filtration of the coolant removes heat-bearing solids as it comes from the work. More uniform limits, better finish, and greater accuracy are maintained with a clean wheel and lower coolant temperature.

Compare these points with your present coolant system:

- **Keeps wheel clean for faster, more accurate cutting and longer life.**
- **Less wheel dressing required.**
- **Uniform coolant temperature.**
- **Limits more easily maintained.**
- **Extended coolant life.**
- **No down time for de-sludging reservoir.**
- **Less wear on coolant system.**

These are but a few of the many advantages offered by Delpark Full-Flowing, Self Cleaning Coolant Filters. For more complete information:

Delpark
INDUSTRIAL FILTRATION
Backed by 30 Years Experience in Industrial Filtration

INDUSTRIAL FILTRATION COMPANY
317 Industrial Avenue • Lebanon, Indiana

If you write maker identify as IEN - 6628

NOW YOU CAN HAVE TIME RECORDED

THE NEW Simplex TIME RECORDER

- Vertical or Horizontal Print • Two Color Registration • Trigger-touch Print • Direct Subtraction • One-Minute Positioning • Attractive, Indestructible Case • This NEW Simplex Time Recorder figures payrolls easier, 50% faster—cuts payroll costs in half.

ACCURATELY AUTOMATICALLY EFFICIENTLY

SIMPLEX TIME RECORDER CO., Gardner, Mass., Dept. 110
Please give us more information on:
☐ Payroll Recorder ☐ Time Cards ☐ Electric Time Stamp
☐ Watchman's Clock ☐ Time Card Files ☐ Time Card Racks
Firm
Name
Street & No.
City State

If you write maker identify as IEN - 6629

NO OTHER OIL HYDRAULICS PERFORM LIKE "COMMERCIAL" OIL HYDRAULICS

Operating pressures recommended up to 1500 p.s.i.

CATALOG H-6 AVAILABLE ON REQUEST

THE COMMERCIAL SHEARING AND STAMPING CO.
YOUNGSTOWN 1, OHIO

"COMMERCIAL"

If you write maker identify as IEN - 6630

"YANKEE" VISES

for accurate, work holding
START-TO-FINISH

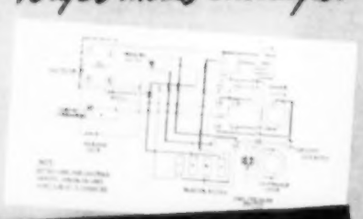
Every operation is lined up square and true in a "Yankee" Vise. Carefully machined . . . top, bottom, sides and front end to give accurate alignment in any position. Easily made into jig. V grooved hardened steel block furnished with each "Yankee" Vise. Four sizes . . . 1½", 2", 2¾" and 4" jaw widths. Write for "Yankee" Tool Book.

STANLEY

NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

If you write maker identify as IEN - 6631

Forget Metal Shortages!



Give your SCHEMATIC DIAGRAMS the Advantages of PLASTICS

End the headaches of metal shortages for your schematic diagrams! Switch to plastics and you'll have perfect protection from soil and damage for your important instructions.

Sillcocks-Miller engineers are specialists in this precision work and can develop and produce diagrams made of plastics to your exact specifications. Write for details and quotations.

The SILLCOCKS-MILLER COMPANY
27 W. Parker Ave., Maplewood N. J.

If you write maker identify as IEN - 6632

ICE MAKING . . Automatic machine rates 300 lb. of ice flakes per day

Source: YORK CORP.
777 Roosevelt Ave., York, Pa.

Sparkling fragments

York-Flakice is a new vertical machine consisting of a gas-cooled compressor, air-cooled condenser, vertical-drum evaporator, condenser fan, water pump and housing. Water brought into contact with the stainless-steel revolving drum is frozen and then harvested from the drum surface by a cast bronze cutter. The ice flows over a stainless-steel collector blade in ribbon form to a porcelain-enameled chute for delivery.

A circuit switch is closed to start the operation and, within a few minutes, a cascade of ice fragments issues from the chute. It continues until the circuit is opened. Overall dimensions are 25 by 25 by 32½ inches.

The ice is not touched in the course of manufacture. It is suited for preserving and protecting fruits, vegetables, foodstuffs as well as in cooling carbonated beverages. The fragile brittleness of the ice fragments prevents damage to delicate food products being packed for shipment or storage. The curved shape of the fragments promotes good contact.

If you write maker identify as IEN - 6633

SAWING . . Portable tool attachment reciprocates blade, will pierce work

Source: CLYDE W. LINT
1142 W. Washington Blvd., Dept. 42, Chicago 7, Ill.

List is $37.50

No starting hole is required for this new Jiffy Tri-Saw which applies in a ¼-in. portable electric tool. With the attachment in place it can be held lightly against a work face and the portable tool started to cause the saw blade to pierce so no starting hole is required in material soft enough such as wood or plaster.

The blade is reciprocated to cut in a drawing action which results in holding the end of the attachment against the work without undue effort on the operator's part. The mechanism is sealed against dirt and is lubricated at a single point.

Identify as IEN - 6634

No applications are known as yet for a new oil-resistant flexible sheet material known by its maker, Minnesota Mining and Manufacturing Company, as Spherekote. The sheet is a little over $\frac{1}{32}$ in. in thickness and made by laminating two cloth-and-rubber sheets back to back. The outer surfaces are coated with millions of microscopic glass spheres so friction is almost non-existent. A sample measuring 4 by 6 inches is available for test purposes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6635

A PAID NEWS ADVERTISEMENT BY THE SCHATZ MANUFACTURING CO.

New Double Row Ball Bearing Rollers Replace Precision Bearings

Manufacturers who want to cut costs without sacrificing anti-friction efficiency will be interested in the new type KR and KRS ball bearing rollers made by the Schatz Manufacturing Co.

These bearings are designed to replace expensive precision bearings when extremely heavy loads and high speeds are not present. Their cost is often less than that of bushings or plain sleeve bearings—since costly machining and assembly time is eliminated. They can handle loads too heavy for single row bearings in space too small for two separate rows.

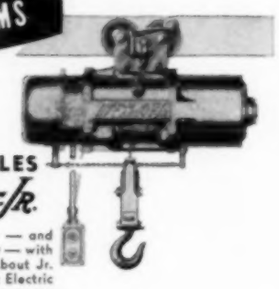
All parts are machined from solid bar stock—carburized, hardened and tempered. Balls are of highly polished, hardened steel. Modifications in the outer ring can be made for specific requirements.

Schatz offers you its catalog No. 11, which gives complete information on all "Commercial" ball bearings. Feel free to consult Schatz engineers on bearing problems.

THE SCHATZ MANUFACTURING COMPANY
6750 Fairview Avenue, Poughkeepsie, N. Y.

If you write maker identify as IEN - 6636

SOLVES MANPOWER PROBLEMS



SHEPARD NILES
LIFT ABOUT Jr.

One man replaces many — and moves more goods faster — with the Shepard Niles Lift About Jr. This lightweight, low cost Electric Hoist frees valuable floor space, puts waste ceiling area to work.

Loads of 500 or 1,000 lbs. are handled easily by an older man, woman or youth.

Learn how the Lift About Jr. fits into your production picture by calling in the Shepard Niles representative. He'll make sure you get the right capacity and controls for your handling job. Write today for Bulletin 127 or 171 and ask to have a representative stop by.

Specialists in loads through-the-air since 1903.

SHEPARD NILES
CRANE AND HOIST CORPORATION
1010 SCHUYLER AVE., MONTOUR FALLS, N. Y.

If you write maker identify as IEN - 6637

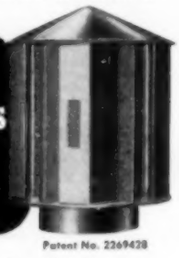
BUYING VENTILATORS? GET THE FACTS FIRST...

Ask for CERTIFIED Ratings... It's the only way you can be sure ventilator performance will measure up to the ratings claimed for it.

Ask for Ratings Based on VARIABLE Wind Conditions... if you want a ventilator that performs efficiently under *all* wind conditions. Ratings of most ventilators are based on *horizontal* wind tests only, or tests made at favorable angles. Many ventilators down-draft at other angles.

Breidert Air-X-Hausters

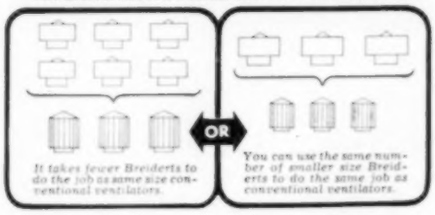
PROVIDE SAFE, SURE VENTILATION NO MATTER WHICH WAY THE WIND BLOWS...



Patent No. 2269428

Certified tests show that the actual capacities of Breidert Air-X-Hausters are greater than published ratings (barring interior negative pressures). Stationary, no moving parts, nothing to jam or get out of order. *The Breidert is the pioneer ventilator* to publish certified ratings based on tests* made with wind blowing in all directions.

The Breidert Delivers Better Results at Minimum Cost



Get *all* the facts! Write today for complete Engineering Data Book, including certified capacity ratings. Address Dept. C.

✔ Every businessman should read "Plain Facts and Simple Figures," written by G. C. Breidert. This thought-provoking article pertains to the problems of every American businessman. The first twenty lines will open your eyes! Write for a free copy.

THE G. C. BREIDERT CO.
3129 San Fernando Road, Los Angeles 65, Calif.
Representatives in principal cities throughout the U. S.

*By Pittsburgh Testing Laboratories

If you write maker identify as IEN - 6639

	CHARACTERISTICS	OPERATING ADVANTAGES
1	Pressure Balanced Sealing Members and Generous Ball Bearings	Non-fatiguing Handle Load at 6000 psi
2	Large, Unobstructed, Tubular Flow Passages	No Pressure Waste
3	Self-Lapping Metal to Metal Seal	Wears-In Where Others Wear-Out

BARKSDALE VALVES
1566 E. SLAUSON AVE. • LOS ANGELES 11, CALIFORNIA

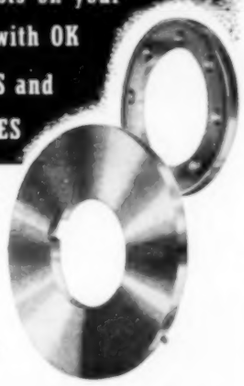
If you write maker identify as IEN - 6640

it's OK

...let'er go!

cut costs on your toughest jobs with OK SHEAR BLADES and SLITTER KNIVES

Heat Treating does it. Gives them maximum toughness and keen edge holding qualities. You get longer runs between re-grindings.



OK Battle Axe Shear Blades for shearing up to and including ¼" mild steel or equivalent.

OK Dura-Chrome Shear Blades for shearing hot or cold plate steel up to 1¼" or equivalent.

OK Standard Shear Blades for any type shearing when only short runs or little shearing is done; also for heavy plate shearing.

OK Gang Slitters for slitting steel, precision ground to ± .0002 tolerances.

OK Rotary Shears and Cutters for trimming sheet steel and light plates.

Write today giving quantity and sizes.

WITH OHIO GREEN

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

If you write maker identify as IEN - 6642

CLEANING . . Abrasive blast machine operates wet on rotor for jet engine

Source: CRO-PLATE CO.
800 Windsor St., Hartford 5, Conn.

Works loads on dolly

New assembly of the company's wet abrasive-blast machine, employing standard parts, has been designed to clean the 5-ft. turbine-wheel - and - shaft assembly for a Type 335 turbo-jet aircraft engine. The machine measures 8 by 4 by 7 ft. and employs a track-mounted dolly to load the assembly.

When it is in place it turns on centers by means of a variable-speed Graham transmission and motor drive for operation at maximum speed of 28 rpm. The operator moves from one to the next of the three stations comprising the machine to perform the manual operations that complete the blast-cleaning work. Fluorescent light and a blower to exhaust blast vapors are built into the assembly. Air consumption is 80 cfm. at 90 pounds.

Blast guns deliver a fine abrasive suspended in water by means of compressed air from a shop line. Impact of the wet abrasive on the metal surface leaves a velvet-smooth finish without removing any appreciable amount of metal. The spent liquid and abrasive flow back to a sump for collection prior to return to the guns.

If you write maker identify as IEN - 6643

CORROSION PROOFING . . Liquid dries to protecting strippable film

Source: ARMSTRONG CORK CO.
1012 State St., Lancaster, Pa.

Data sheets upon request

Finished product or work in process can be protected for storage and shipping by application of several new plastic coatings developed by the company. These coatings can be used selectively on plastics, glass, enameled and painted metal or any smooth, non-absorbent surface. They form a tough flexible film that can be stripped in one piece.

Type W-820 is for brush or roller coating. It is normally translucent green but can be supplied colorless. It is for general use on plastics and glass, enameled and painted metal or any smooth non-absorbent surface. Coverage is about 175 sq. ft. per gal. with film thickness at 0.001 inch. Water is employed for thinning. Drying can be accelerated under infrared lamps at temperatures to 180 deg. F.

Type J-1132 is a translucent red solution with consistency suitable for brush, roller coating or spray. It forms a protective coating for polished zinc and copper engraving metal and is suited to protect easily corroded or highly polished metal parts. Coverage is 290 sq. ft. per gal. to a film thickness of 0.001 inch. It also forms a tough flexible film that can be stripped in one piece.

Type T-940, a hot-melt strippable material, is supplied in the form of pigs in a light-tan color at room temperature. The resulting film, following hot-dip application, is about 0.01 in. in thickness. It is transparent, almost colorless, tough and flexible. Coverage is about 160 sq. ft. per gallon. It is particularly suited to coat tools between periods of use.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6644

SAVES TIME EFFORT ERRORS

LABELON PLASTIC TAPE
Write on it

WON'T SMUDGE
STAYS CLEAN FOREVER
RESISTS: DIRT · OIL · WATER · ACIDS

STICKS WITHOUT MOISTENING

PERFECT FOR FACTORY, LABORATORY, OFFICE

Nothing else like LABELON—the amazing "Write on it" plastic tape! Use it to label stockroom shelves, bins, tools, hard-to-mark parts; for indicating rejects and service department repairs; for marking laboratory equipment supplies, experiments; for panel-boards or wiring; for office files, folders, etc.

LABELON TAPE sticks without moistening to any smooth, clean surface—yet can be quickly removed. Resists heat up to 150°. Just write on it with pencil or stylus — message won't smudge. Choice of widths and colors. Handy dispenser with cutter bar.

See your nearest dealer, or write for sample and prices.

Write to Dept. IEN

LABELON TAPE CO., Inc.
450 Atlantic Ave., Rochester 9, N.Y.

If you write maker identify as IEN - 6645

Collapsible pallet-box plus Gerrard Steel Strapping helps cut shipping costs!

Photo courtesy of International Harvester Company, Industrial Power Division

● The collapsible pallet-box shown here carries 7450 lbs. of front axles. Gerrard Round Steel Strapping reinforces all six sides of the container, keeping the box rigid and the contents safe until they reach their destination. When the box is unloaded and all straps removed, the box may be quickly collapsed and its members strapped together for return shipment. Costly shipping space is thereby conserved.

Call a Gerrard engineer for detailed information about how the Gerrard Method of Strapping can help you cut shipping costs, speed up production line tying, eliminate unnecessary containers or give stronger reinforcement to cartons, boxes, crates and pallets. Write for a free copy of the *Blue Book of Packaging*.

GERRARD STEEL STRAPPING DIVISION
UNITED STATES STEEL COMPANY
4701 S. Richmond St., Chicago 32, Ill.

U·S·S GERRARD ROUND STEEL STRAPPING
UNITED STATES STEEL

If you write maker identify as IEN - 6646

This book will help you, too!

44 PAGES On How To Improve Your Polishing Operations

You'll find plenty of time- and money-saving facts in Norton's booklet, "Setting Up Polishing Wheels and Belts." Tells how to prepare glue for wheels . . . how to set up and dry wheels . . . how to set up abrasive belts . . . how to get best results in polishing. Contains detailed information on abrasive grains for polishing, including selection tables. Ask your Norton Distributor for Form 1540, or write direct to Norton Company, Worcester 6, Mass. Distributors in all principal cities.

NORTON ABRASIVES
Making better products to make other products better

If you write maker identify as IEN - 6647

Simple
Accurate
Convenient

Industrial NOISE SURVEYS

TO:
Improve the performance of Industrial Equipment and Household Appliances
Protect Persons Working Near Noisy Equipment
Assist in Design and Construction of Buildings Suitable for Housing Noisy Machinery
Improve Working Conditions of Office and Shop Personnel

The G-R Sound-Survey Meter *is a very small, pocket-size, self-contained and inexpensive meter for showing the level of noise. It has a range of 40 to 130 db above the standard reference level. It weighs only 1 pound 14 ounces with batteries. Only two controls, both on the face of the instrument, are used. It can be operated on a bench, a table, a tripod or in the hand.*

This meter is proving very useful for all types of preliminary noise-level measurements. It can be operated successfully by anyone. Write For the SOUND-SURVEY METER Bulletin.

TYPE 1555-A Sound-Survey Meter: $125

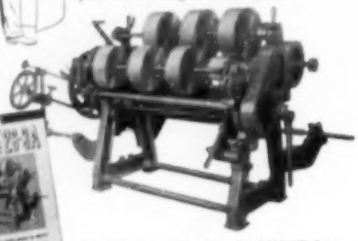
GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 · 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

If you write maker identify as IEN - 6648

Camachine

SLITTERS AND ROLL WINDERS

If you want fast, low cost production of top-quality rolls of paper, plastics, textiles, rubber, and other plain, coated, laminated or tacky-surfaced materials . . . it will pay you to investigate Camachines!



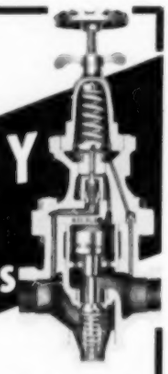
Bulletin 1010 will be sent on request

26-3A, a popular CAMACHINE featuring differential rewinding and positive roll separation. Rolls produced on the 26-3A are ideal for further processing, or for consumer use.

Cameron Machine Company • 61 Poplar Street • Brooklyn 2, N.Y.

If you write maker identify as IEN - 6649

Dependable, accurate control for steam or air service!



KECKLEY pressure regulators

If you have to control steam or air pressures to unit heaters, kettles, air cylinders or other equipment, you can't do better than WITH KECKLEY PRECISION PRESSURE REGULATORS. No more worries about pressure variations or continual maintenance. Keckley regulators operate longer and more accurately because they're the product of many years of technical experience in the designing and production of valve specialties.

Sizes from ½ to 6"—Screwed or flanged—Initial pressures to 400 lbs. steam, 600 lbs. air reduced to a low of 1 psi. Various combinations for pressure and temperature control. Ask our representative, your industrial distributor or write us for further information.

SEND FOR COMPLETE CATALOG 51-E

O. C. KECKLEY COMPANY
400 West Madison Street • Chicago 6, Illinois

If you write maker identify as IEN - 6650

ECONOMY Shovel Truck

FOR HEAVY DUTY SERVICE

A choice of either 6" or 8" diameter wheels, interchangeable at any time by a simple shift of axel position on the truck frame, is a practical feature of this sturdy hand truck.

This rugged all steel truck is ideal for handling heavy cartons, kegs, boxes and crated machine parts. Tubular handles are 51" high.

Knife edge on blade slips under load easily

DIA.	WHEELS TREAD	RECOMMENDED CAPACITY AND USE	PRICE
6"	Semi Steel Roller Brg.	Up to 1000# on smooth, hard floors	$29.48
	Solid Rubber Durex Brgs.	Up to 500# on finished floors	$32.16
8"	Semi Steel Roller Brg.	Up to 1000# on rough floors	$34.84
	Semi Pneumatic Rubber Roller Brg.	Up to 500# on uneven floors	$36.18

Order from your jobber or direct from

ECONOMY ENGINEERING CO.
4502 W. Lake Street, Chicago 24, Ill.

PRICES NET F.O.B. CHICAGO

If you write maker identify as IEN - 6651

SEWING . . Flat bed machines in single and multiple needle designs

Source: UNION SPECIAL MACHINE CO.
402 N. Franklin St., Chicago 10, Ill.

Style 51100 BP

Four machines have been added to the company's Series-50000 flat-bed sewing machines for a variety of applications. Style 51100 BP is a single-needle unit to seam large and medium size bags. It produces Type-401 stitch in a range from 3½ to 7 per inch. Style 52100 BC is a two-needle machine for cording operations on light-weight open and kitted fabrics. It produces seam 402-OSC-1 in a range from 10 to 18 stitches per inch.

Style 52700 BM is a new three-needle machine to attach elastic bands. It produces seam 402-LSB-1 inverted in a range from 14 to 20 per inch. Style 51700 BL is a new two-needle machine to fold and attach button-hole facings to knitted garments in one operation with a semi-finish front. Its seam specification is 401-LSA-2 in a range from 7 to 14 per inch.

Each of the machines is equipped with automatic lubrication operating from an internal reservoir. Each employs anti-friction bearings in the feed lift, looper avoid, feed drive. It has new seize-resistant main bearings. A coil spring permits precise adjustment to apply pressure directly to presser foot.

If you write maker identify as IEN - 6652

COUNTING . . Electronic equipment rates to 100,000 counts per second

Source: BERKELEY SCIENTIFIC CO.
2202 Wright Ave., Richmond, Calif.

List is $1,200

Model 550 is a new assembly of the company's plug-in electronic decade units, previously described IEN-8492-49, to operate in connection with four selective input circuits and controls for a range of application. Range is 0 to 100,000 cps. for counting speed and from 10 microseconds to 1 second for interval measurements. Accuracy is within 1 event or 10 microseconds. Operation is on 110-volt 60-cycle ac. with input at about 200 watts. Overall dimensions are 21 by 15 by 20 inches.

Readings can be made on elapsed time between any two events, on the number of events during a precise time interval, the duration of light interruptions in light flashes. Velocities also can be measured. The three normal input channels provide for events per unit of time, time-interval pulses and time-interval photowave impulses.

Identify as IEN - 6653

Ni-Hard nickel-chromium castings, considered to be machinable only by grinding, are now being turned in a turret lathe using Kennametal K-6 carbide cutting tools. International Nickel Company knows the particulars.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6654

Stop CORROSION in your Steam System

WITH CORAVOL BOILER

When fed to your steam system, **CORAVOL**: (1) *prevents* corrosion in steam and condensate lines, (2) *cleans out* clogging rust deposits resulting from previous corrosion. Thus, **CORAVOL** protects lines, increases the effectiveness of heat transfer surfaces, restores original capacity of lines and the operating efficiency of valves and traps.

CORAVOL is part of a complete technical service which provides special chemical formulas for Boiler Feed Water . . . Foam Prevention . . . Hot Water Supply . . . Refrigerating Brine . . . Cooling and Condenser Water . . . Rapid Scale Removal . . . Coagulation . . . Algae Control.

Write TODAY to Western Chemical Company, 715 Washington Street, Kansas City, Missouri—for complete FREE data about the **CORAVOL** process.

Western Chemical Co. is owner of U. S. Patent No. 2038124 covering the use of volatile amines in steam systems.

WESTERN CHEMICAL CO.
715 WASHINGTON • KANSAS CITY, MO.

If you write maker identify as IEN - 6655

PRECISION IN ALLOY STEEL TUBE SAVES MATERIAL, TIME-LOSS

CLOSE TOLERANCE . . . Tubing having O.D., I.D. dimension spread of .002" and concentricity within 10% of the wall thickness was needed by a Superior customer to save extensive machining operations with consequent time and material losses. Manufacturer of precision ball bearings, this customer forms both inner and outer races of E-52100 tubing where bar stock was formerly used . . . the savings are well worth having—the bearings perform even better than before.

YOU, TOO may have a need for fine small tubing that can help solve a fabrication or performance problem. Superior can probably help. Check your needs against our production of tubing in all analyses from .010" to ⅝" O.D. and in certain analyses (.035" max. wall) up to 1⅜" O.D. Write for information and free literature today.

SUPERIOR TUBE COMPANY
2016 Germantown Avenue
Norristown, Pennsylvania

If you write maker identify as IEN - 6656

Portable MOISTURE METER

insures product uniformity . . . cuts costs!

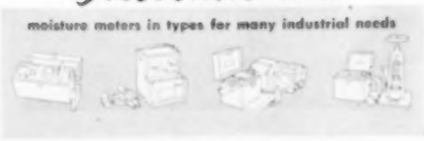
TAG Midget MOISTURE METER

In the manufacture of coated abrasives, too much moisture in the backing material during processing, or too little moisture, can have costly consequences. Non-uniform flexing . . . paper delamination . . . mold . . . or even bonding failures. So this leading manufacturer checks moisture content every step of the way with simple, accurate TAG moisture meters. They state, "portable TAG meters have enabled us to attain a more uniform product, and eliminate product losses due to improper moisture content."

In many other products and processes, too, incorrect moisture content is costing real money. Why not consult with TAG on your moisture problems now. Or, ask for literature on the various types of moisture meters available . . . WESTON Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, N. J., *manufacturers of Weston and TAG instruments.*

WESTON *Instruments*

moisture meters in types for many industrial needs



If you write maker identify as IEN - 6658

New! Farquhar SUPER-ACE CONVEYOR

slashes coal handling costs!

Here's a brand *new* Farquhar Portable Conveyor with *exclusive features especially designed to save you time and money* in your coal handling operation. Heavy plate construction, channel iron wheel truck, closer tolerances—all give you greater strength with less weight! Bolted construction makes for easy repairs! Top-quality belting, improved pulley construction, deeper, wider return dust pan assures longer belt life! Moving parts feature ball bearings! Either chain and sprocket or V-belt drive!

Farquhar CONVEYORS SAVE YOU MONEY

WRITE NOW for complete information on this new time and money-saving Farquhar Super Ace Portable Coal Conveyor!

A. B. FARQUHAR CO.,
Conveyor Dept. E-12,
142 N. Duke St., York, Pa., or 615 W. Elm St., Chicago 10, Ill.

A. B. FARQUHAR COMPANY Division of THE OLIVER CORPORATION

If you write maker identify as IEN - 6659

IS THERE A "BEST CHOICE" IN LOCKS?

You bet there is . . . and it's DUO and ILLINOIS locks . . . with hundreds of styles and sizes in cabinet locks for wood or metal installations available for original equipment applications.

DUO LOCKS—Finest in lock quality—practically unlimited key specifications—virtually pick-proof—non-duplicatable style keys.

ILLINOIS LOCKS—Economy priced cylinder locks—many key changes—construction avoids failure due to dirt or freezing. Illinois lock engineers are always ready to cooperate with you in working out special locking problems. For complete service, call Illinois first.

ILLINOIS

THE ILLINOIS LOCK COMPANY

808 S. ADA ST. • CHICAGO 7, ILL.

If you write maker identify as IEN - 6660

100% FASTER THAN OTHER GRINDING MEDIA!

BURUNDUM

If you want the same grind in half the time or a much finer grind in the same time, you want **BURUNDUM** — the tubular grinding medium!

BURUNDUM is a tough, white, ultra-high fired ceramic medium of unusually high specific gravity and extreme hardness. Its cylindrical shape gives you a greater area of attrition per contact. Its high unit weight gives you faster action — more contacts per minute. Its extra hardness gives you positive grinding.

What's more, **BURUNDUM's** toughness, slow "wear-off," and light color make for minimum contamination. Its dense, non-porous surface permits fast, easy "clean-ups."

User after user is finding **BURUNDUM** gives much faster — much finer grinds than flint pebbles or porcelain balls. Why don't you? *Write, today, for full details and samples.*

THE U. S. STONEWARE CO.
AKRON 9, OHIO
Process Equipment Division

If you write maker identify as IEN - 6661

RETRIEVING . . Free rotating reel for hose handling air, steam, water

Source: ZIERDEN CO.
3813-17 S. Kinnickinnic Ave., Milwaukee 7, Wis.

Pull it out and push it back

Welded wire forms the body of this new industrial reel. The center spindle is made of stainless steel and is mounted on ball bearings for free rotation. Air, steam or water can be connected to flow through the spindle to the hose. The reel pays out this hose freely. The operator pushes it back into place. Mounting can be in any of five arrangements to suit the limitations of a given installation. The reel is built in various sizes and types for specified use.

If you write maker identify as IEN - 6662

PHOTOGRAPHING . . Color film 8 and 16 mm. width for motion pictures

Source: McGREGOR PRODUCTS CO.
203 Grand Ave., Rochester 9, N. Y.

List price is $3.25 and $8.95

The company announces availability of an 8 mm. 25 ft. double roll and a 16 mm. 100 ft. single roll in connection with its service that includes return for processing. The film is intended for use in interior and exterior picture making with standard motion-picture cameras.

If you write maker identify as IEN - 6663

TRUCK . . Shovel attachment for company's 2 ton power lift truck

Source: YALE & TOWNE MFG. CO.
11002 Roosevelt Blvd., Philadelphia 15, Pa.

Takes a big bite

Capacity for this new shovel attachment is 80 cubic feet. It has been designed to handle bulky loads of loose materials such as aggregates, gravel, sand, sawdust, waste, metal chips, ashes, scrap. The shovel can be tilted downward to scoop up a load from the ground or it can be loaded from overhead. The rear end elevates by means of the lift mechanism on the truck when the load is to be dumped. Application is on the company's standard truck as illustrated.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6664

A PAID NEWS ADVERTISEMENT BY BOSTITCH

FASTENING — Stapling pliers now get more power from less effort on more jobs

Bostitch P6 Stapling Pliers have scientifically engineered compound-roller action that drives and clinches ¾" staples through work up to ¼" thick. ½" staples are available for thinner work. Staples can be applied up to 2¾" in from edges.

Three models cover a wide range of applications.

P6-8 uses .050 x .019 wire staples on materials that are not easy to penetrate, such as multi-wall bags, canvas, corrugated board, flexible corrugated wrappings, and other materials requiring a broad wire for great holding power.

P6-6 uses .026 x .019 wire staples on materials of moderate weight, such as heavy paper bags, thick groups of correspondence or records, and a lot of jobs beyond the capacity of a desk-type stapler.

P6-12 uses .019 round wire staples on easy-to-penetrate materials where the strong, plier-type action is an advantage over other stapling tools.

Serves also as a tacker. Ask for Bulletin 201.

BOSTITCH
462 Mechanic Street, Westerly, Rhode Island

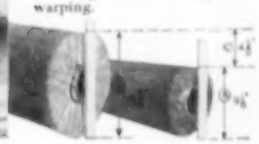
If you write maker identify as IEN - 6665

5 times the Wear

A Fullergript fiber and wire mixture brush before use in floor sweeper.

B Same brush after 10 months service — 5 times as long as the ordinary brush lasts.

C Note that although brush has worn down 4¾", there is no evidence of material shedding, loose backing or warping.



Users of power-driven floor sweepers consistently emphasize the longer brush life, the improved sweeping efficiency and the saving of man-hours with Fullergript brushes! Write us for information.

FULLER BRUSH FULLERGRIP (At home in business, too)

THE FULLER BRUSH COMPANY • INDUSTRIAL DIVISION
3583 MAIN STREET • HARTFORD 2, CONN.

If you write maker identify as IEN - 6666

Globe Ramp Eliminator

Keeps Plant Traffic on the Level

A Globe Ramp Eliminator averts the dangers of makeshift gangplanks and provides safe, dependable, and fast vertical transportation between levels. This means less risk of damage to materials or injury to workers.

With a Globe Ramp Eliminator, movement of materials always is across a sturdy, safe, level platform instead of up or down steep or temporary makeshifts. This adds up to safer, faster, easier, and cheaper handling of goods.

GIVE YOUR BUSINESS A LIFT!

A Globe OILIFT will help you make the most of your manpower . . speed production, save you money, help eliminate damage to materials and injury to workers. Write today for valuable information on Self-Leveling Ramps, Machine Loading Lifts, Industrial Truck Service Lifts, Production Lifts, etc. Ask for Bulletin HE-417-A.

GLOBE HOIST COMPANY • 1000 E. Marmold Lane, Phila. 18, Pa.
Factories at Des Moines, Iowa, and Philadelphia, Pa.

If you write maker identify as IEN - 6667

The Trojan Tractor will quickly convert existing slow, hand traveled hoists and small cranes to power travel and speed up material handling. It is a compact, low cost, power travel unit that can be readily attached to overhead material handling equipment by means of a simple draw bar.

Send in this advertisement for more information and a copy of Trojan Tractor Bulletin 810; just fill in company name and address.

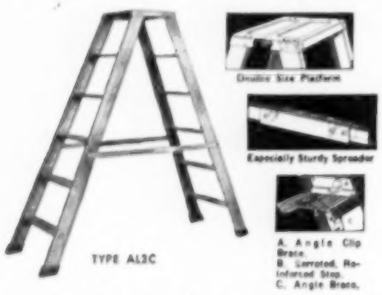
DETROIT HOIST & MACHINE CO.
8227 MORROW ST. • DETROIT 11, MICH.

Company _____

Address _____

If you write maker identify as IEN - 6668

HERE'S DUO-SAFETY'S TWO-SIDED . . . ALL ALUMINUM MAINTENANCE LADDER



A new ladder in the famous Duo-Safety line of strong, sturdy, aluminum industrial ladders. Has a double climbing side, large top platform, rubber safety boots, light, strong aluminum construction. Ideal for all types of overhead maintenance work including use with extension planks. Available in sizes from 3 to 16 feet and is collapsible for storage in a limited space.

Free, Colorful File Catalog . . . Sent on Request

DUO-SAFETY LADDER CORP.
811 NINTH ST. · OSHKOSH, WIS.

If you write maker identify as IEN - 6669

Templstiks°

the amazing crayons that tell working temperatures from 113° to 2000° F.

in welding
flame-cutting
tempering
forging
casting
molding
drawing
straightening
heat-treating
in general

$2 each
gives up to 2000 readings

It's this simple: Mark the work-piece with the proper Templstik.° When the mark melts, the specified temperature has been reached.

113	200	288	375	650	1000	1350	1700
125	213	300	388	700	1050	1400	1750
138	225	313	400	750	1100	1450	1800
150	238	325	450	800	1150	1500	1850
163	250	338	500	850	1200	1550	1900
175	263	350	550	900	1250	1600	1950
188	275	363	600	950	1300	1650	2000

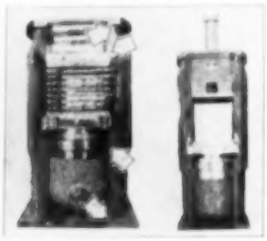
FREE SAMPLE PELLETS
Use this coupon. Specify temperatures of interest to you.

TEMPIL° CORP., 132 West 22nd St., N. Y. 11, N. Y.
Please send free sample pellets in the following rating.....
Name.....
Company.....
Address.....

If you write maker identify as IEN - 6671

PLASTIC MOLDING . . Hydraulic press takes load on side frame shoulders

Source: ADAMSON UNITED CO.
728-32 Carroll St., Akron 4, Ohio



Unusually rigid

Rigidity to minimize deflection in high pressure curing operations employed in molding close-tolerance synthetic-rubber products, such as gas masks, carburetor diaphragms, characterizes this new patented Barrel press. Curved cast-steel side plates conform to the contour of the hydraulic press head.

Circular shoulders machined in these plates take the upper stationary head and the power cylinder. Top and bottom steel plates engage shoulders on the side frames to hold them in. The complete assembly makes a rigid metal structure without dependence on threaded fastenings or through rods.

The press is available with platens measuring 12 by 12 in. to 32 by 32 inches. Pressure rating is to 1,200 lb. per square inch. The number of platens between the upper and lower heads is subject to specification. The line includes a design for transfer molding for which a transfer cylinder and pot are built into the press itself.

If you write maker identify as IEN - 6672

WASHROOMS . . Metal dispenser to regulate use of paper towels

Source: BAY WEST PAPER CO.
343 S. Pearl St., Green Bay, Wis.

One at a time

One Turn-Towl issues from a slot at the bottom of this new dispenser when the operator presses a button with one hand and turns a crank with the other. It is necessary to release the button, press it again and turn the crank a second time to deliver a second towel. This fact is employed to deter the user from wasting towels. The dispenser takes the company's Mosinee sulphate paper towels. The mechanism is removable for replacement as a unit if it should be damaged.

Identify as IEN - 6673

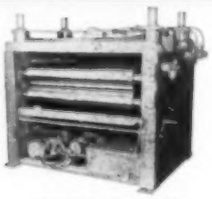
Your own publicity manager may want to know about a new Editorial Directory of Business Publications that has just come from the presses. In it are described and analyzed some 1,250 publications in fields that include business, trade and the professions. Each listing includes a roster of the editors, the departmental responsibilities, editorial deadlines, photo, mat and cut requirements. The book is designed to assist in selection of publications to carry news of your new products and plant activities. It lists at $10.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6674

UNION AUTOMATIC COMPOUND SPREADERS

SAVE *8 WAYS



1 "Die life increased 75%."
2 "Production increased 20%."
3 "Compound saving of 16%."
4 "Rejects reduced 10%."
5 "One helper eliminated."
6 "Paid for itself in 54 days."
7 "Able to use salvage stock for some operations."
8 "25,000 more pieces before changing dies."

MODELS TO FIT ANY STOCK UP TO 96" WIDTH

Union is the foremost designer and manufacturer of roller coating machines for application of drawing or stamping compounds and protective coatings.

Models may be equipped with hardened steel, or with neoprene-covered rolls—also with heated or cooled rolls—to meet your individual requirements.

*The above claims are based on actual statements by users, both large and small—a number of whom have ordered a second and third machine.
Complete data and agent's name on request. Union will design and/or manufacture coating machines to meet your specific requirements.

UNION TOOL CORP.
316 E. MARKET ST., WARSAW, IND., U.S.A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

If you write maker identify as IEN - 6675

recorders

RECORD TIME • COUNT QUANTITY AND WEIGHT

Actuated by an electrical impulse . . . operates on the output of a scaler, photo tube, limit switch or any similar device. Records counts with relation to time and quantity on a roll of tape . . . automatically resets to zero.

In Radioactive Research, it saves precious man hours and results in greater economy and efficiency.

In Industry, it maintains a permanent record automatically, recording production and time each hour.

Whatever your counting problems, our Engineering Department can adapt these Recorders to meet your particular need.

Write for interesting Booklet SC 12

AUTOMATIC WEIGHT RECORDERS SINCE 1888

STREETER-AMET COMPANY
4101 N. RAVENSWOOD AVENUE • CHICAGO 13, ILLINOIS

SCALES • WEIGHT RECORDERS • HI-SPEED COUNTERS

If you write maker identify as IEN - 6676

A.C. or D.C. . . . single phase or polyphase . . . induction or synchronous . . . in all ratings and frame types —whatever the need, you can find the one motor best suited to the job in the complete line of Fairbanks-Morse Motors. Call your nearby Fairbanks-Morse electric motor branch for details, or write: Fairbanks, Morse & Co., 600 So. Michigan Ave., Chicago 5, Ill.

FAIRBANKS-MORSE,
a name worth remembering

ELECTRIC MOTORS AND GENERATORS • MAGNETOS • PUMPS
DIESEL LOCOMOTIVES AND DIESEL ENGINES • FARM MACHINERY
SCALES • RAIL CARS • HOME WATER SERVICE EQUIPMENT

If you write maker identify as IEN - 6678

UNTIL RECENTLY the performance characteristics of pure-bristle brushes had never been duplicated in those made of synthetic materials. Now, because of Robinson's careful expert tipping and blending of nylon filaments, *TIPPED* nylon brushes contain all the qualities of pure bristle brushes . . . flexibility, resilience, taper and good length out. Robinson *TIPPED* nylon brushes are superior in painting performance . . . they pick up more paint and lay it down faster, smoother.

An outstanding reception is given to Robinson's *TIPPED* nylon brushes by maintenance, production, and master painters alike. Try them yourself! They are available through Distributors, Paint and Oil Dealers or Hardware Stores. Catalog mailed on request.

EDWARD E. ROBINSON
INCORPORATED
P.O. Box 147
95 PARK AVENUE · NUTLEY 10, N. J.
Telephone Nutley 2-4510

If you write maker identify as IEN - 6679

Just because that bathing suit is proper at the beach, she shouldn't assume it's proper for the classroom, too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for *all* bearings on that machine. In many cases it isn't.

OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little*.

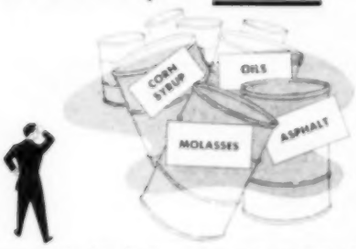
Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

Write for free Catalog No. 60-A

GITS BROS. MFG. CO.
1854 S. Kilbourn Ave. • Chicago 23, Ill.

If you write maker identify as IEN - 6680

How would you PUMP it?



Viscous pumping jobs like these call for a Kinney SD Rotating Plunger Pump. This pump is extremely efficient, capable of handling virtually any viscous material which can be pumped through a pipeline. There are no valves, blades, springs, vanes, or internal obstructions. Flow through the pump is steady and smooth. Available plain or steam jacketed in capacities to 3000 g.p.m.

Write for Bulletin L51.

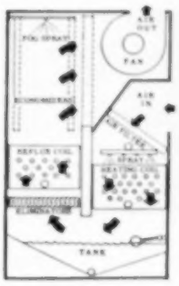
KINNEY MANUFACTURING CO.
3564 Washington St., Boston 30, Mass.
New York • Philadelphia • Chicago
Cleveland • Houston • New Orleans
Los Angeles • San Francisco • Seattle
and foreign countries

Kinney LIQUID PUMPS

If you write maker identify as IEN - 6681

AIR CONDITIONING . . Concentrator for liquid used in humidity control

Source: NIAGARA BLOWER CO.
3117 Chrysler Bldg., New York 17, N. Y.



Built for specified capacity

New design is announced by the company for its concentrator unit with which its liquid drying agent, Hygrol, is separated from the moisture it has picked up in the air conditioning unit it serves. The liquid is returned to the conditioner to pick up additional moisture. The equipment makes it possible to employ the drying liquid in a closed circuit without appreciable loss over extended periods.

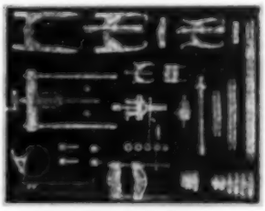
The Hygrol is diluted by the water moisture it absorbs and, in this condition, is pumped to the concentrator. It is sprayed into an air stream over a heating surface that raises its temperature to evaporate the water. The air stream then passes through eliminator plates to remove the liquid drops and over a cooled reflux coil which raises the relative humidity in the chamber and condenses the absorbent vapor.

Passage is next through filtration cylinders where condensation of the absorbent liquid is completed and its droplets are caught by filters while the moisture-laden air passes through. The reconcentrated absorbent drains to the tank in the base of the concentrator from where it is returned to the air-conditioning equipment to pick up additional moisture.

If you write maker identify as IEN - 6682

PULLING . . Hand hydraulic tools to service International tractors

Source: OWATONNA TOOL CO.
371 Cedar St., Owatonna, Minn.



Set No. IHC-31

The illustration shows a new set of pulling tools with accessory parts and a hand-hydraulic pump to apply pressure in servicing International Tractors. The set includes pullers, adapters, attachments and the company's 17½-ton Power Twin hydraulic ram. The tools apply in removing and installing gears, bearings, sleeves, pulleys, shafts, sprockets, races, bushings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6683

now
ONE GOVERNOR
ONE MODEL . . .
for 9 out of 10 industrial and farm engines

PIERCE
LONG RANGE
UNIVERSAL
GOVERNOR

● Instant variable speed selection and accurate engine control at any speed setting within 1200 to 2600 RPM. Higher and lower ranges obtainable by simple change of pulley. Also "constant speed" operation.

● Accurate, dependable speed control for engines operating corn shellers, drag lines, hoists, arc welders, trucks and tractors with power take-offs, etc.

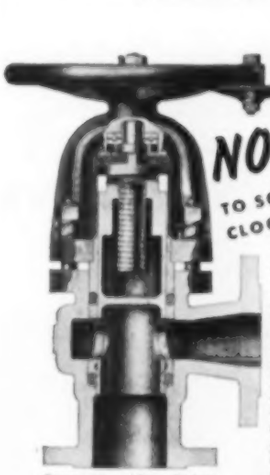
List Price $39.50
Pulley Extra 4"-$1.70 5"-$1.75

Write for Complete Information
DEALERSHIPS AVAILABLE

THE PIERCE GOVERNOR COMPANY, INC.
1640 Ohio Avenue, Box 1000, Anderson, Indiana, U. S. A.
WORLD'S MOST EXPERIENCED GOVERNOR MANUFACTURER

If you write maker identify as IEN - 6684

If you write maker identify as IEN - 6685



NO SEAT!
TO SCORE . . . WEAR . . . CLOG . . . AND LEAK

The Yarway Seatless Blow-Off Valves eliminate the commonest source of trouble and expense with ordinary blow-off valve operations.

The famous seatless principle first introduced nearly 40 years ago, has been constantly improved and adapted to meet modern service requirements.

There is a Yarway Blow-Off Valve for every pressure.

SEND FOR FREE BLOW-OFF VALVE BOOKLET. PLEASE STATE YOUR BOILER PRESSURES.

Cross section of Type "B" Seatless Angle Valve, Flanged.

YARNALL-WARING COMPANY
122 Mermaid Ave., Phila. 18, Pa.

YARWAY BLOW-OFF VALVES

If you write maker identify as IEN - 6686

SCREENS . . . STRAINERS
TO YOUR SPECIFICATIONS
MADE BY
Specialists

We are SPECIALISTS. Our business, our only business is fabricating screens and strainers. By specializing we have assembled highly productive facilities, skilled technicians and engineers resulting in great production improvements and economies.

FABRICATION SERVICES
• Shearing • Soldering
• Brazing • Welding
• Crimping • Plating
• Stamping

PITTSFIELD ENGINEERS will design a screen or strainer to meet the exact requirements for particle retention, flow capacity, limiting dimensions, of your product. Send specs plus rough sketch for FREE quotation.

SEND FREE LITERATURE
Our problem is mainly:
Mr. ..... Firm .....
Street ..... City ..... State .....

PITTSFIELD PRODUCTS, Inc.
ANN ARBOR, MICHIGAN

If you write maker identify as IEN - 6687

REMOVE STUBBORN GREASE AND DIRT FROM METAL PARTS — EASIER, FASTER, MORE ECONOMICALLY WITH . . .

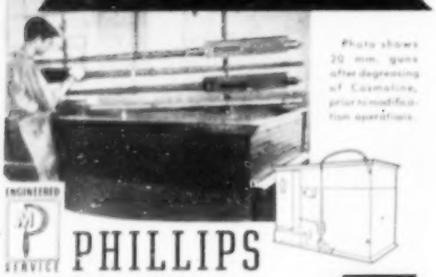


Photo shows 20 min. gyns after degreasing of Casmatine, prior to modification operations.

ENGINEERED SERVICE PHILLIPS

VAPOR DEGREASERS

THE most heavily greased up parts will come clean easier and faster in a Phillips degreaser. High vapor temperature (250.2° F.) not only causes more dissolved grease to run off the metal, but makes for faster degreasing too. Wherever you have parts to clean, large or small, before plating, painting, rustproofing, service and repairwork, etc., you can do it better, faster and more economically with a Phillips degreaser. There's a standard model to meet your needs. Check with Phillips today.

SEND FOR YOUR FREE COPY OF NEW ILLUSTRATED DE-GREASER BULLETIN!

Phillips MANUFACTURING COMPANY
1161 Touhy Avenue • Chicago 45, Illinois
Vapor Degreasers • Solvents • Parts Washers

If you write maker identify as IEN - 6688

Look! It's Really Portable—

RIGID

"400" POWER DRIVE

On Wheels!

Wheel legs and front handles available to convert your present "400" to wheel model; or legs and tray to make bench model into stand.

Power for hand threaders, cutters, reamers now easily rolled where you need it!

★ One man can easily wheel-barrow this popular RIGID power unit close to the work—think of the time and muscle saving!

★ And it stands still and delivers plenty of power—universal motor, forward, reverse, ¼" to 2"—to 12" with geared tools.

★ RIGID design 3-jaw chuck, 6 adjusting pinions, one always handy, self-centering workholder in rear.

★ Sealed-in lubrication—no oil to spill.

★ See it, compare it—buy the unequalled "400" at your Supply House!

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIGID
Work-Saver Pipe Tools

If you write maker identify as IEN - 6690

TESTING . . Sound level meter for design, production, plant operation

Source: GENERAL RADIO CO.
273-77 Massachusetts Ave., Cambridge 39, Mass.

List is $360

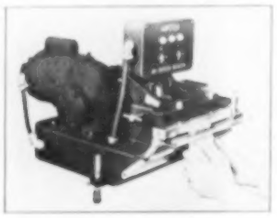
Type 1551-A is new miniaturized design of the company's sound-level meter, previously described IEN-608-40. The new instrument is operated by self-contained batteries for portable application as in the original assembly. A small ac power supply is now available for continuous use. Weight is about 11 lb. or one-half that of the older instrument. Overall dimensions are about 10¼ by 8¾ by 6¾ inches.

The circuit employs a two-stage preamplifier and a three-stage main amplifier for an overall frequency response that is flat from 20 cycles to 20 kilocycles. Direct measurement of sound pressure levels can be made over a range from 20 to 140 decibels. The diaphragm-type crystal microphone is removable so it can be placed at one end of a cable or replaced by another microphone of special characteristics. Output connections are available to operate auxiliary equipment such as frequency analyzers, tape recorders, oscillographs.

If you write maker identify as IEN - 6691

PACKAGING . . Heat sealing machine, jaw type to close top of filled bags

Source: AMSCO PACKAGING MACHINERY INC.
31st St. & 48th Ave., Long Island City 1, N. Y.



Motor driven, foot actuated

A filled bag made of heat-sealing material is entered between the jaws of this new sealing machine to close and seal its open end. A folding bar, acting with the jaws, guides the bag into place for either straight sealing or folding and sealing. The bar also prevents spilling from the open end as the bag top enters the machine.

Heat, pressure and dwell are controlled automatically. Heat is provided by cartridge-type elements in both the upper and lower jaws. They measure 1 in. in width by 12 in. in length. Crimp, flat or flat with a bead can be specified.

Identify as IEN - 6692

Stainless steel is employed in manufacture of a new conveyor belt measuring 55 in. in width by 100 ft. in endless belt length. It's an Orange Roller Bearing Company Metalsmiths belt for food processing. The welded connection is finished to the same thickness as the body. Edges are made to aid in tracking. The outer surface has a mirror polish.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6693

FAWICK ROTORSEALS
Performance Proved in
THOUSANDS OF INSTALLATIONS

Machine problems requiring transmission of air or liquids from stationary to rotating machine members are best solved with FAWICK ROTORSEALS.

Precision ROTORSEALS are available in single and multiple passage units, insuring dependable sealing of air, liquids or gases under pressure. They are equally effective in vacuum applications and may be operated continuously or intermittently in either direction.

FAWICK AIRFLEX CO., INC.
9919 CLINTON ROAD • CLEVELAND 11, OHIO

For complete information on a FAWICK ROTORSEAL to suit your specific application, write to the Home Office, Cleveland, Ohio.

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

If you write maker identify as IEN - 6694

How To Mark Name Plates In 1/5 the Time

Cutting costs in these times is a good trick if you can do it. You can, on plates requiring detail marking, by using an Automark Electric Metal-Marking Typewriter. The operator lightly touches the key and the Automark does the rest, quickly and automatically. No dial to turn—no lever to pull. Marking output is increased five times and worker fatigue is greatly reduced. Write today for Bulletin 8-16.

AUTOMARK
Electric Metal-Marking
TYPEWRITER
Manufactured Exclusively By

AGENTS
Desirable territories open for responsible representatives. Write giving complete information, lines carried and territory covered.

DEFIANCE MACHINE & TOOL COMPANY
1926 South Vandeventer Ave. • St. Louis 10, Mo.

If you write maker identify as IEN - 6695

A positive seal

for OIL • GAS
FREON • BUTANE
STEAM • WATER

Pipetite provides a positive seal for joints regardless of the type of fluid or gas being used. It is the dependable joint compound that makes good workmanship and assures user satisfaction. To be absolutely sure of "no leaks" use Pipetite. If your supplier does not have it . . . write direct.

LACO BRAND
LAKE CHEMICAL CO.
3050 W. Carroll, Chicago 12, Ill.

If you write maker identify as IEN - 6696

Loaded with Features for...

• Smoother Performance
• Longer Life
• Better Service

WECO
DROP-SIDE* SNATCH BLOCKS

Full swiveling forged steel hook designed for straight line pull . . . forged steel sheave is machine finished for smoothness . . . case hardened sheave pin has greater resistance to wear . . . "Super-Oilite" bearing is precision fitted, giving maximum load distribution . . . Snarl-Proof . . . Drop-Side assures fast easy stringing without using end of line of raising hook.

Superior design and construction adds to the performance, service and life of WECO SNATCH BLOCKS . . . gives them greater strength, safety and utility . . . makes them easier to handle and safer to use.

Ask your WECO or CHIKSAN Representative or write for latest information about WECO SNATCH BLOCKS.

* Patented

WELL EQUIPMENT MFG. CORP.
Division of Chiksan Company
HOUSTON 1, TEXAS
Exclusive Sales Representative Outside Mid-Continent Area
CHIKSAN COMPANY
Bros. Calif. Chicago 3, Ill. Newark 2, N. J.
Export Sales: CHIKSAN EXPORT COMPANY, Bros. Calif. Newark 2, N. J.

WECO
Manufacturers and Distributors of Oilfield, Refining, Marine and Industrial Equipment

If you write maker identify as IEN - 6697

PRODUCTION PICK-UP:

ELECTROLIFT

worm drive hoist

Watch your production pick up with these time-saving, manpower-saving hoists. You can move materials faster, smoother, quieter with Electro-Lift.

Wide variety of one-man models, for safe movement of loads up to 6 tons. Available with push-button control for pin-point accuracy.

For further features write for Bulletin 36, or consult your ElectroLift representative listed in telephone directory.

ELECTROLIFT

ELECTROLIFT, INC., 30 CHURCH ST., NEW YORK 7, N. Y.

If you write maker identify as IEN - 6698

Pangborn "EZ" Hydro-Finish paid for itself in three months at Benedict-Miller, Newark, New Jersey.

Checking with micrometer proves Hydro-Finish can hold tolerances as close as .0001".

"EZ" DOES IT!*

***At Benedict-Miller, PANGBORN "EZ" Hydro-Finish® Cabinet**

- **Saves Labor!**
- **Gives Better Surfaces!**
- **Increases Business!**
- **Saves Money!**

"EZ does it," says Robert M. Bloss, General Manager at Benedict-Miller of Newark, N.J. "In fact, our EZ Hydro-Finish does a lot more than we ever figured it could!"

Take one case in particular—cleaning the inside surfaces of doll head molds. From a required hand cleaning time of three hours per mold, Hydro-Finish stepped up production to 80 in five hours—a labor saving of well over $200 on this job alone!

Heat treat scale was previously removed by pickling. But after trying Hydro-Finish, the report was: "Besides all the extra costs and trouble, an acid pickling surface just can't compare with a Hydro-Finish surface." On some items, Benedict-Miller's heat treat business was actually *doubled*, as customers learned about the amazing finish B-M (and EZ) turned out!

It all adds up to better quality, faster production, and increased profits for Benedict-Miller and its customers. Learn how Pangborn can do this for you, too. Write today for Bulletin 1400-A. Address: PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Maryland.

Pangborn

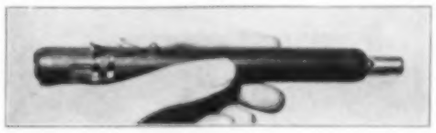
Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

BLAST CLEANS CHEAPER with the right equipment for every job

If you write maker identify as IEN - 6700

MAGNET . . Pencil type unit to extract or pick up ferrous pieces

Source: GENERAL SCIENTIFIC EQUIPMENT CO. 2785 W. Huntingdon St., Philadelphia 32, Pa.



List is $6.50

Magnetic Probe designates a new permanent magnet assembled in a pencil-type holder that can be carried in a pocket where it is held by a clip. It can be used to identify magnetic and non-magnetic materials beneath coated surfaces. It will pick up small pieces from difficult locations. It can be used as a first-aid unit to remove steel splinters from eyes or skin. It can be sterilized without harming the magnet.

If you write maker identify as IEN - 6701

DRIVE . . Pulley lagging provides secure traction for flat belt

Source: MAIN PRODUCTS CORP. 1239-43 Carpenter St., Rm. 153, Philadelphia 47, Pa.

Drive conditions your pulleys

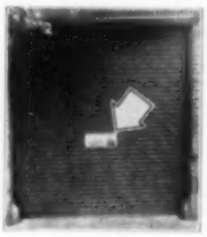
Pullag trade names a new neoprene lagging compound for application on pulleys driving flat transmission and conveyor belts. It is employed in connection with a solvent cleaner and a primer to produce a surface that results in excellent traction for the belt.

The solvent cleaner is applied with a cloth or brush and then is wiped until the pulley surface has been dried. This is followed by brush or spray application to the primer. The lagging is then sprayed or flowed on evenly with a brush, applying three coats at 15-min. intervals. The pulley can be put in service within 24 hours, but it is recommended for curing in air to reach maximum serviceability in 8 days.

If you write maker identify as IEN - 6702

DOOR . . Steel rolling design is fitted with transparent plastic window

Source: CORNELL IRON WORKS INC. 13th St. & 36th Ave., Long Island City 1, N. Y.



A window made of transparent plastic slats, the same section as the door slats, is now included in the company's line of steel rolling doors. The window is available in 12, 16, 20 or 24 in. height and 20 in. width. Two or more can be used in large doors. When the door is rolled up the window rolls with it. When the door is down in closed position the window provides a weather-tight closure.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN - 6703

★ Not an oil—a chemical that dissolves and prevents rust.
★ Expands and contracts with metal—stops peeling and blistering of paint coat.
★ Provides perfect surface for painting.
★ One gallon covers approximately 1200 sq. ft.

Rust deposit on steel forms a pitted surface.

Old method of applying oil base paint after sanding or brushing leaves rust in pits which later break through.

Lowell Metal Primer goes into the pits, dissolves ALL the rust and seals the surface — stops future paint failures.

Apply Lowell Metal Primer with cloth, brush, spray or by dipping. Watch it dissolve rust and seal the surface against future rust. It expands and contracts with the metal which prevents peeling or cracking like oil base primers. Use on damp or dry surfaces—dries in one hour . . . covers two to four times the surface of oil base paints; priced approximately the same.

USE Lowell FOR PRIMER BEFORE PAINTING

Metal roofs, iron fences, gutters, metal window sash, farm equipment, metal tanks and stacks, poles, any surface subject to rust or oxidation.

GENSCO

GENSCO CHEMICAL DIVISION
1836 NORTH KOSTNER AVENUE • CHICAGO 39, ILLINOIS

If you write maker identify as IEN - 6704

Tell Us Your Production Problems... We'll Help You Solve Them

"LOGAN" Air and Hydraulic Power-Operated CHUCKS with open or closed center

- American Standard or Logan Standard jaw locks.
- American Standard spindle nose adaptation.
- Accurately machined.
- One-piece steel body.
- Operating parts protected by pressure lubrication.

Two-jaw, combination type

Three-jaw, universal type

Logan Air and Hydraulic Equipment

LOGANSPORT MACHINE CO. INC.

Logan Manufactures 6,975 Standard Cataloged Items

Free Catalog On Request

AIR CONTROL VALVES
AIR CHUCKS
AIR CYLINDERS
AIR and HYDRAULIC PRESSES
COLLET GRIP TUBE FITTINGS
HYDRAULIC CONTROL VALVES
HYDRAULIC CYLINDERS
HYDRAULIC POWER UNITS
SURE-FLOW COOLANT PUMPS

FLUID POWER SPECIALISTS SINCE 1916

If you write maker identify as IEN - 6705

Why skilled workmen Choose RIGID PIPE VISES

8 sizes for pipe from ⅛" to 6"

It's extra easy to work with RIGID Bench Yoke Vises

★ All have handy integral pipe rests and benders.
★ Yokes and bases of strong special malleable; top quality tool-steel jaws—LonGrip jaws up to 6" capacity.
★ Made in bench, post, kit, stand and tristand models. Chain vises in bench, post, stand and tristand models.
★ Buy work-saver RIGID vises at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIGID Work-Saver Pipe Tools

If you write maker identify as IEN-6707

BOOST PRODUCTION

COBURN

OVERHEAD CONVEYING EQUIPMENT

Meet today's need for maximum plant production, increased efficiency and faster handling of materials with Coburn Overhead Conveying Equipment. It gives you unobstructed floor space, requires very little headroom, makes it easy to spot work directly over machines. Loads up to 3000 lbs. handled by hand chain or electric hoist; power-operated equipment also available.

For additional information write to Sales and Engineering, 56 Sterling St., Clinton, Mass., or consult your classified telephone directory. Write today for catalog #220.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, California

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL AND IRON CORPORATION CFI

If you write maker identify as IEN-6708

DILLON DYNAMOMETERS can solve your tension or stress problems

The perfect instrument for indicating tension or stress in cable, rope, castings, assemblies, etc.—in field or laboratory. Easy to use in close quarters—measures 8¼" x 6¼" x 3", weighs only 8 lbs. 4 oz. Not injured by accidental overload. Has safety glass cover and maximum hand. 500 to 100,000 lb. capacities. Low cost. Immediate shipment.

By using a Dillon Dynamometer in this special draw-bar arrangement, the Roth Company, Denver, Colorado, manufacturers of mining locomotives, has proved a money saving point. They found that locomotive horsepower—not weight—is the all-important factor in achieving economical mine haulage. Result: thousands of dollars saved in several moves!

Write today for illustrated bulletin

W. C. Dillon & Co., Inc.
1421 P South Circle Ave.
FOREST PARK, ILLINOIS

If you write maker identify as IEN-6709

SAVE TIME AND MATERIALS

Oil-hardened tool steel tapered pin gages accurate to + 0.0001" − 0.0000" insure dependable sizing and location of holes and slots for machinists, setup men, tool and die men, inspectors, all who need precise hole measurement.

CONCENTRIC TAPER on lower half of each gage fits holes 0.0012" smaller than standard letter, fraction, and number size drill holes. Makes insertion easier. Permits gaging of add-size holes and slots.

ALL GAGES are 1½ inches long. Sets contain a pair of each size in a plastic case with 4-place decimal equivalents of each size plainly marked.

ALL ITEMS STOCKED FOR IMMEDIATE DELIVERY

THE Hoskins GAGE COMPANY
21 STAPLES ST., BRIDGEPORT, CONN

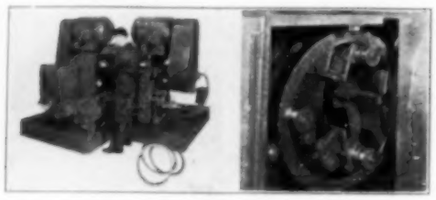
Quantity
Letter sets @ $45. 52 gages (A-Z)
Fraction Sets @ $50. 60 gages (1/64" to 1") in 1/64" steps
Number Sets @ $90. 120 gages (1 to 60)
Single gages @ $1.
Stand alone @ $10.

Please flash checked items and literature to
company
address
name
title

If you write maker identify as IEN-6710

GRINDING . . Opposed disc machine to grind the faces on a clutch plate

Source: GARDNER MACHINE CO.
51 State Line Road, Beloit, Wis.



Special application of standard machine

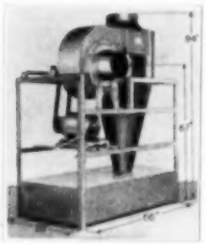
New assembly of the company's opposed-head disc-type machine mounts a hydraulic-feed carriage carrying two power-driven rolls and one adjustable idler. The three serve to present bronze-faced clutch plates between the discs and to rotate these plates, one at a time, to finish their opposite faces. Production averages 35 to 40 pieces per hr. removing 0.01 in. of stock overall. Tolerance is held between 0.001 and 0.002 in. for parallelism and 0.005 in. for uniformity.

The abrasive discs measure 26 in. in diameter. They are carried by heads equipped with 4-in. ball-bearing spindles, each belt connected to its own motor. The machine can be set up to grind plates ranging from 12½ to 19 in. in outside diameter and measuring 0.126 in. in thickness.

If you write maker identify as IEN-6711

DUST COLLECTING . . Blower and centrifugal separator, 5,500 cfm.

Source: AGET-DETROIT CO.
401 Main St., Ann Arbor, Mich.



Stock assembly

Model 50N60 is a new assembly of stock parts to include a centrifugal blower, belt-connected 10-hp. motor, centrifugal separator, dirt-collecting compartment and a structural frame. The equipment will handle 5,500 cfm. at 4 in. of water on a 12-in. inlet. It measures 38 by 66 by 94 in. overall.

Dust, lint, chips developed in grinding, polishing, buffing, turning and milling operations are separated from the air stream on the outlet side of the blower. They fall into the compartment in the base for removal at intervals. Air issues from the 16-in. opening at the separator top, normally for connection outdoors. The equipment includes a starter switch.

If you write maker identify as IEN-6712

"Recommended Practice for the Welding of Steel Castings" titled a 40-page booklet we reported in January for Steel Founders' Society of America. At that time there was a quoted price of 35 cents. Now Tempil Corporation will send a copy free as a service to engineers and technicians.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6713

For HIGHEST ELECTRICAL & MECHANICAL Efficiency!

New JONES 2400 SERIES PLUGS & SOCKETS

Improved Socket Contacts. Four individual flexing surfaces. Positive contact over practically their entire length.

Both Plug and Socket Contacts mounted in recessed pockets greatly increasing leakage distance, INCREASING VOLTAGE RATING. Plug and Socket Contacts cadmium plated. Add to appearance of your equipment. Interchangeable with Jones 400 Series.

Ask for Catalog 18. Complete line Jones Plugs, Sockets, Terminal Strips.

P-2406-CCT
Plug—with cable clamp in top.

S-2406-SB
Socket with shallow bracket for flush mounting.

Send for complete data on this new basic improvement!

Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

If you write maker identify as IEN-6714

AERO-SEAL WORM-DRIVE HOSE CLAMPS WON'T SHAKE LOOSE!

Use of Stainless Steel Subject to Government Regulations.

Wherever you have to clamp a hose connection tight . . . or wherever you want to lock two objects of any shape together in an unshakeable bond . . . your best bet is AERO-SEAL.

Threads of steel worm engage deep into slots in stainless steel band—hold tight under extreme vibration in automotive, aircraft and industrial applications. CAN'T SHAKE LOOSE.

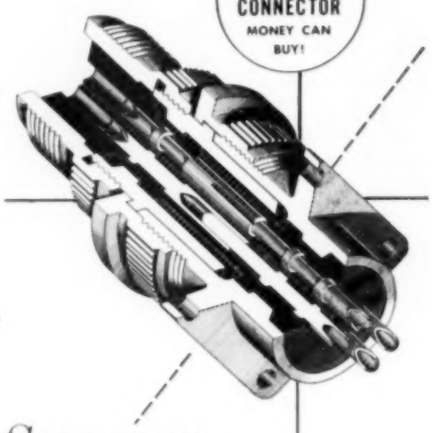
One-Hand Installation
Install on Aero-Seal any place you can reach with thumb and one finger. Self-feeding when band engages worm threads. Thumb-grip and screwdriver types.

Re-use Again and Again
When hose is worn you RE-USE the same Aero-Seal again and again. RE-USE Aero-Seals on temporary clamping jobs—they conform to any shape without damaging band.

"Aero-Seal" WORM DRIVE HOSE CLAMPS
ANOTHER BREEZE PRODUCT
BREEZE CORPORATIONS, INC.
41 South Sixth St. Newark, N. J.

If you write maker identify as IEN-6715

The Finest ELECTRICAL CONNECTOR MONEY CAN BUY!



SCINFLEX ASSURES YOU PEAK PROTECTION AGAINST CIRCUIT FAILURE

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX ELECTRICAL CONNECTORS

Bendix
SCINTILLA MAGNETO DIVISION of Bendix AVIATION CORPORATION
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.
FACTORY BRANCH OFFICES: 118 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 583 Market Street, San Francisco 4, California

If you write maker identify as IEN - 6717

MAXI-PICH SHEAVES

4 Four reasons why—

YOU SHOULD DEMAND

"V-BELT" MAXI-PICH Stationary & Motion Control Sheaves

They're engineered for rugged performance from best grades of heat-treated steel and soft-gray iron castings.

You get every advantage of other sheaves **plus** these 4 outstanding features—

1. MAXIMUM PITCH DIAMETER VARIATION
2. CONSTANT BELT ALIGNMENT
3. INTERCHANGEABLE BUSHINGS
4. USES COMMERCIAL V-BELT AND COMPANION SHEAVE

"V-Belt" Maxi-Pich Sheaves fit any factory machine—save installation and operating costs—speed production. For the FULL STORY, ask your "V-Belt" dealer, or write to the V-Belt Engineering Co., Richmond, Va.

V-BELT ENGINEERING COMPANY
RICHMOND, VIRGINIA

If you write maker identify as IEN - 6718

DO YOU NEED PRECISION ROLLED OR ULTRA-THIN METAL STRIP?

WE ROLL • Beryllium-Copper-Invar • Phosphor Bronze • Copper • Brass • Nickel-Silver • Stainless Steels • Low Carbon Steels • Nickel • Monel • Haynes Stellite Alloys • Magnetic Alloys • Chrome Iron Alloys • and Many Others

WE REGULARLY PRODUCE metal strip up to 8" in width and down to .0005" thin—to tolerances as close as ±.0001".

OUR MODERN EQUIPMENT INCLUDES Sendzimir, 2-High, and 4-High precision rolling mills, precision gang slitters, and continuous atmosphere annealers.

WE CARRY A WORKING INVENTORY of some metals for prompt service. Send us your order for one pound or a thousand—or write for catalog of products and services.

AMERICAN SILVER CO., Inc.
INDUSTRIAL DIVISION
36-03 PRINCE ST. • FLUSHING 54, N. Y.

If you write maker identify as IEN - 6719

IN CONCRETE, MARBLE, OR ROCK

★ DRILL EASIER
★ DRILL FASTER
★ DRILL CLEANER

WITH THE ORIGINAL ROTARY CONCRETE DRILL BIT

For use in electric or air rotary drills. No hammering—no chiseling—no jarring. RCD Drill Bits' pulverizing action does the job better. Cheaper, too, because they are so much faster. Standard sizes ¼" to 2" in diameter. *Free factory re-sharpening until further notice.*

Send for new low prices and illustrated literature

Personalized guarantee given to every RCD Drill Bit user.

ROTARY CONCRETE DRILL CO.
650 S. Arroyo Parkway • Pasadena 1, Calif.

If you write maker identify as IEN - 6720

LIGHTING . . Incandescent fixture concentrates illumination on work area

Source: BRETFORD MFG. INC.
2846 Commerce St., Franklin Park, Ill.

Swivel mounting base

The work area on a machine can be flooded brightly by application of this new adjustable incandescent fixture. It can be positioned universally. It employs a steel reflector that remains sufficiently cool so it will not burn an operator on contact. The reflector encloses a porcelain socket, mounts an adjusting knob and a toggle switch and takes a standard 40 or 60-watt lamp or a 75 watt reflector-type lamp. The circuit cord extends through the tubular arm support.

If you write maker identify as IEN - 6721

FASTENING . . Quick setting cement to set anchor bolts, studs in concrete

Source: HALLEMITE MFG. CO.
2444-48 W. 25th St., Cleveland 13, Ohio

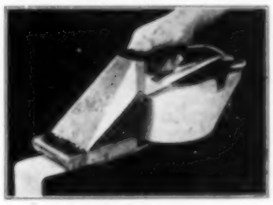
Also to grout under machines

Por-Rok is a new cement supplied in powdered form for mixture with water to the consistency of grout. The mixture then is poured around a bolt or stud where it will set hard in 15 to 30 minutes. It also can be employed to patch worn spots in concrete to take light traffic in 15 min., normal traffic in 30 min., heavy loads within an hour. The material is self-bonding, self-leveling, oil resistant and does not shrink. It attains a compressive strength of 4,500 lb. per. sq. in. within an hour.

If you write maker identify as IEN - 6722

PACKAGING . . Roll type dispenser, portable design to apply gummed tape

Source: MID-STATES GUMMED PAPER CO.
2513-17 S. Damen Ave., Chicago 8, Ill.



Moistens and applies

Containers can be sealed or resealed by application of this new Roll-On-Sealer. It applies portably and carries a roll of gummed tape for feed to the applicator head. Included in the assembly is a water supply set up so it will not spill out when the unit is applied upright, on its side, or upside down. A cutter at the nose end severs the tape when the operator twists the tool. The tape can be dispensed and applied to any length. It takes 600-ft. rolls of sealing or reinforced-filament tape in any width to 3 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6723

HERMASEAL GLASS TUBES HELP SPEED UP ASSEMBLY

WHY—Hermaseal Glass Tubes have metallized ends, for easy soldering to end caps—saves time, cuts down on rejects.

STOCK SIZES
—Hermaseal makes Glass Tubes in a variety of stock sizes, and can also make up special units to meet your requirements.

HERMASEAL
—is a specialist in Sealed Terminals, Headers and allied parts.

COMPLETE CATALOG
—Just off the press, a new catalog with descriptions and specifications for most of Hermaseal's stock Terminals and Headers. Write for copy today.

Hermaseal

THE HERMASEAL CO., Inc.
Elkhart 25, Indiana

If you write maker identify as IEN - 6724

FREE FAN CATALOG

See 1952's most complete line of fans, featuring models for every commercial and industrial need. See them all in the new Emerson-Electric Fan Catalog for '52. Write today for Catalog T62.

The Emerson Electric Mfg. Co.
St. Louis 21, Mo.

EMERSON ELECTRIC
FANS • MOTORS APPLIANCES

If you write maker identify as IEN - 6725

Clow for CAST IRON PIPE EXPANSION OR REPLACEMENT IN PLANTS . . . NEW BUILDINGS

Leading engineering firms specify Clow "IPS"* Cast Iron Pipe for downspouts, waste and vent lines because of its corrosion-proof qualities.

"IPS" Pipe permits speedy installation with minimum disruption of work. It can be cut and threaded with ordinary tools of the piping trade.

Either plain or threaded ends: 18 foot lengths, sizes 3, 4, 5, 6, 8 and 10 inches . . . *Or* with integral calking hub, other end plain: 18 foot lengths, sizes 4, 6 and 8 inches.

*"IPS" means Iron Pipe Size, having the same outside diameter as steel or S. W. I. pipe.

Write for Form 4-26-50.

JAMES B. CLOW & SONS
201-299 North Talman Avenue Chicago 80, Illinois

WHOLESALE DISTRIBUTORS OF PIPE, VALVES AND FITTINGS FOR INDUSTRIAL USE

If you write maker identify as IEN - 6726

It's NEW!

It's FAST! TOLEDO SPEEDWEIGH OVER-UNDER SCALES

Here's *new speed with accuracy* for you in check weighing, packaging, many other operations today . . . 5 sizes—to 5 lb., to 20 lb., to 50 lb.! Shadowfree wide-angle reading . . . accurate to 1/64 of an ounce . . . new improved knife-edge check link system . . . *exclusive* "coined" bearings for greater accuracy, longer life . . . stainless steel beam . . . enclosed levers in one-piece housing . . . choice of platters and scoops . . . many more *plus* features! Write for bulletin 1416. Toledo Scale Company, Toledo 1, Ohio.

TOLEDO® Headquarters for SCALES

If you write maker identify as IEN - 6727

LAWLOR MOP WRINGERS

FOR EASIER MOPPING GET A LAWLOR NO. 2

EASIEST turning wringer made: there are bearings at ends of rollers.

EASY to bring rolls together: foot lever is perfectly balanced.

Copied but never Duplicated!

EASY to move wringer: self-adjusting front casters raise metal feet from floor when you're ready to go.

The LAWLOR No. 2 accommodates any standard round: galvanized pail up to 16-quart capacity. Net weight of wringer—23 pounds.

LAWLOR No. 6 TWIN is like the No. 2 Wringer in general construction, but accommodates two pails.

Write for Catalog of Mopping Tanks, Wringers, Floor Scrub Wax-Polishing Machines for every kind and size floor.

Quality Floor Equipment for 50 Years

S. C. LAWLOR CO. 120 North Aberdeen Street Chicago 7 • Illinois

If you write maker identify as IEN - 6728

low level cost... all level comfort with DUNHAM FIN-VECTOR RADIATION

Put Dunham Fin-Vector Radiation *at any height* along outside walls and you get the heat you need—for *less*.

Materials used are those best suited to rapid heat transfer. Finned pipe heating elements can be installed one, two or three tiers high.

Light in weight, Fin-Vector requires few supports . . . is easy to handle. Three cover designs—various sizes and types of heating elements—to choose from. Made in lengths from 2 ft. to 10 ft. in 6 in. increments to reduce on-the-job cutting, speed assembly.

For further information, WRITE FOR BULLETIN 1251-11.

DUNHAM

C. A. DUNHAM CO.
400 W. Madison St., Chicago 6, Ill.
In Canada: C. A. Dunham Co. Ltd., Toronto
In England: C. A. Dunham Co. Ltd., London

HEATING SYSTEMS AND EQUIPMENT

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Don't Handcuff That Engine!

STOP Costly Cylinder Wear with the UNIVERSAL TOP OILER

- Reduces Valve and Ring Failures
- Lowers Fuel Octane Requirements
- Reduces Oil and Gas Consumption
- Frees Sticking Valves
- Increases Payload Power

The Universal Top Oiler assures constant, uniform top-cylinder lubrication on all types of internal combustion engines by metering vaporized top oil through the intake manifold. When used with an approved upper-cylinder lubricant, it neutralizes corrosive acids, stops carbon and gum formation, prevents dryness in the hottest, busiest part of the engine. Easy to install. List price $8.95.

Provides maximum benefit when used continuously with Universal Top-Oil. Write for full details.

Gentlemen:
Please send complete information on the UNIVERSAL TOP OILER and the new Universal Top-Oil.

Name _____

Address _____

City _____

UNIVERSAL LUBRICATING SYSTEMS, INC.
783 ALLEGHENY AVENUE • OAKMONT, PA.

NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Each includes identification, size of the material, information it contains so you can judge its value to you.

AIR CONDITIONING . . "Kathabar" dehumidifying equipment; six reprint advertisements on process applications with a note on how it works. Bulletin K-152, 8 pages. Surface Combustion Corp., 2372-77 Dorr St., Toledo 1, Ohio **IEN-0576**

BATTERIES . . Lead-acid highway-truck unit with compressed porous separators between plates; notes on properties. "Varley Accumulator," 8 Pages. Chicago Forging & Mfg. Co., 1315-19 W. North Ave., Chicago 22, Ill. **IEN-0577**

BATTERIES . . "Eveready Mini-Max" A-B battery packs for portable radios and electronic equipment; ratings, sizes. "Battery Eng. Bulletin 2-52," 8 pages. National Carbon Co., 30 E. 42nd St., Rm. 308, New York 17, N. Y. **IEN-0578**

BEARINGS . . Self-lubricating powder-metal bearings; MPA designations, dimensions on 133 standard sizes, corresponding types. "Interchangeable Bulletin 104," 4 pages. Wel-Met Co., 113 Gougler Ave., Kent, Ohio **IEN-0579**

BOILERS . . "Vapor-Clarkson" steam generator; test procedures and tabulated results to determine performance and efficiency on two models. Bulletin 533-A, 16 pages. Vapor Heating Corp., 4503 W. 16th St., Chicago 33, Ill. **IEN-0580**

BORING . . Tools for boring and planing, also an 8-position tool holder, extension heads; descriptions, outline drawings on 16 types. "New Tools," 6 pages. Giddings & Lewis Machine Tool Co., 14044 Doty St., Fond du Lac, Wis. **IEN-0581**

BRUSHES . . Single and double-spiral wire brushes; specifications on 56 sizes ⅛ to 1 in. in diameter, suggestions on how to apply hand and power brushes. Bulletin, 4 pages. Mill-Rose Co., 1938-87 E. 59th St., Cleveland 3, Ohio **IEN-0582**

CALCULATING . . "Elecom" digital computer that operates with electric typewriter; specification summary, other computers. "Brains for Business," 6 pages. Electronic Computer Corp., 263-67 Butler St., Brooklyn 17, N. Y. **IEN-0583**

CASTINGS . . Modern equipment and methods in production of malleable castings contrasted with those by the company 60 years ago. "Changing Times," 20 pages. Albion Malleable Iron Co., 601 N. Albion, Albion, Mich. **IEN-0584**

CHEMICALS . . Coumarone-indene and other resins, coal-tar solvents, plasticizing oils, creosote and shingle-stain oil, naphthalene; condensed properties. Price List, 4 pages. Neville Co., 452 Neville Island, Pittsburgh 25, Pa. **IEN-0585**

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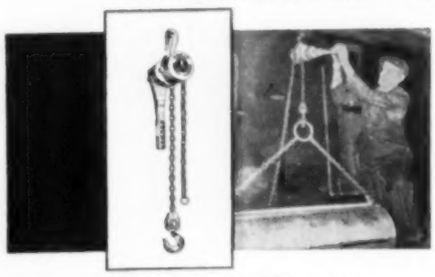
If you write maker identify as IEN - 6730



WORKS FAST IN TIGHT SPOTS "Tugit" is tops for all lifting, pulling and stretching jobs where space is limited. It is small, light, portable—operates smoothly at any angle. Built like a hoist, with efficient gearing, automatic load-brake and anti-friction bearings, "Tugit" is easy on muscles, fast and safe in action. A 40-lb. pull on the lever lifts a one-ton load—spots it as close as 3/32 of an inch.

If your maintenance and repair jobs, construction, road or service work call for lifting, pulling, stretching and tightening—"Tugit" is the handiest tool you can use. It fits any tool box. Available in one and two-ton sizes. Send for Bulletin 388.

MMM

'TUGIT' HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" Cranes, "Budgit" and "Load Lifter" Hoists and other lifting specialties. Makers of "Ashcroft" Gauges, "Hancock" Valves, "Consolidated" Safety and Relief Valves, "American" Industrial Instruments.

If you write maker identify as IEN - 6731

MODERN FUNCTIONAL DESIGN WITH

THE SELF-CLOSING Flush Latch

HARTWELL H-4000

The unique design of the Hartwell H-4000 latch makes it extremely versatile with virtually no limitation to its application in the normal range of latch usage. It is equally adaptable to interior or exterior installation in sheet metal, plastics, plywood or solid wood, and its design makes possible the use of almost any type of operating handle. A door or access plate equipped with the H-4000 can be latched by simply pushing it closed. There are no levers to be pushed or pulled into place.

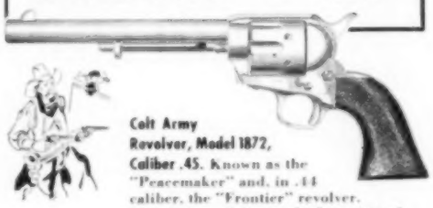
Write for new Flush Latch and Hinge Catalog.

HARTWELL COMPANY

9035 VENICE BOULEVARD, LOS ANGELES 34, CALIFORNIA

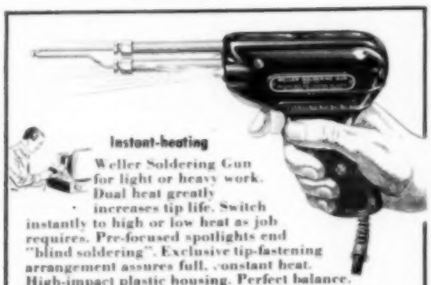
If you write maker identify as IEN - 6732

Famous Guns



Colt Army Revolver, Model 1872, Caliber .45. Known as the "Peacemaker" and, in .44 caliber, the "Frontier" revolver. This famous Colt was *the law west of the Mississippi!* Weight and ruggedness made it a convenient means of administering a "pistol whipping".

Model 1808 Navy Pistol, Caliber .64, made by Simeon North of Berlin, Conn. Boarding pistols like this rendered valuable service in the War of 1812. In building them, North actually used a modern mass production technique *—standardized parts!*



Instant-heating Weller Soldering Gun for light or heavy work. Dual heat greatly increases tip life. Switch instantly to high or low heat as job requires. Pre-focused spotlights end "blind soldering". Exclusive tip-fastening arrangement assures full, constant heat. High-impact plastic housing. Perfect balance. Low-cost replaceable tips. Pays for itself in a few months. See at your Distributor or write for Bulletin direct.

Get SOLDERING TIPS, new Weller Handy Guide to faster, easier soldering. 20 pages fully illustrated. Price 10c at your Distributor or order direct.

Weller BETTER FROM GRIP TO TIP!

SOLDERING GUNS 823 Packer St., Easton, Pa.

The Finest Soldering Tool for the Finest Craftsmen

If you write maker identify as IEN - 6734

Logan LATHES
Put Profit in Production

With its 11" swing, 1" collet capacity, and 1-3.8" spindle hole, today's Logan Lathe handles **more** production work, **more profitably** than ever before. Easy to set up. Ball bearing mounted Logan spindle has the sustained accuracy at high speeds to hold precision tolerances. Accurate, durable Logan construction keeps production going at top efficiency, at minimum cost per finished part.

WRITE FOR CATALOG — FULL DETAILS ON SCREW CUTTING AND TURRET LATHES AND SHAPERS

LOGAN ENGINEERING CO.
4901 West Lawrence Avenue, Chicago, 30, Illinois

If you write maker identify as IEN - 6735

Bin Stuck Lately?
Don't ruin your Bins

Vibrate them with a TYPE F
CLEVELAND AIR VIBRATOR

• Steel Chips . . . Dry Colors . . . Concrete . . . Fertilizer . . . Sand . . . Coal . . . Soap . . . Sawdust . . . Vegetables . . . Chipped Ice . . . Meat . . . Candy . . . Wood Chips . . .

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Up *faster, easier, less costly* than conventional structures —and fully insulated to protect from heat and cold. Standard units to fit your specific building requirement. Quick delivery.

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NEW LITERATURE — Continued

CHUCKS . . Style-S master collets and pads for automatic screw machines, also Style-B feed fingers and pads; design features, shapes. "Why They Are Preferred," 12 pages. Hardinge Bros., 1416-20 College Ave., Elmira, N. Y. **IEN-0586**

CLEANING . . Cold-solvent parts washing machines; details on soak-tank, hose-flooding, agitator-type units, selection chart on equipment and materials. Catalog I, 12 pages. Graymills Corp., 3703-7 N. Lincoln Ave., Chicago 13, Ill. **IEN-0587**

COMMUNICATING . . P-A-X "internal" telephone equipment; data on 10 types, selection information, available telephone handsets, service. Bulletin 1735, 8 pages. Automatic Elec. Co., 1031-35 W. Van Buren, Chicago 7, Ill. **IEN-0588**

CONDUCTORS . . Insulated copper wire to solder without stripping; specifications, recommended soldering procedure, list prices, colors, sample. "Nonstrip," 12 pages. Rex Corp., 49-53 Landsdowne St., Dept. N, Cambridge 39, Mass. **IEN-0589**

CONNECTORS . . Multiple-pin rack-and-panel connectors, also battery units, 7 and 9-pin miniature units, binding posts; dimensional drawings, application. Catalog 1, 8 pages. H. H. Eby Inc., 4706 Stenton Ave., Philadelphia 44, Pa. **IEN-0590**

CONNECTORS . . Metal-glass hermetic seals; standard types, terminal arrangements, feed-through units, plugs, miniature units; drawings. "Hermetic Seals," 32 pages. Hermetic Seal Products Co., 31-35 S. 6th St., Newark 7, N. J. **IEN-0591**

CONSTRUCTION . . Replacement parts for construction equipment from Allis-Chalmers brakes to Wisconsin oil filters. Price List 352, 44 pages. Highway & Industrial Equipment Co., 5211-15 Hillsboro Rd., Raleigh, N. C. **IEN-0592**

CONSTRUCTION . . Wood-fiber board for concrete forms; properties, deflection-span chart, sample specifications, application sketches. "Concrete Form Presdwood," 8 pages. Masonite Corp., 109-13 W. Washington St., Chicago 2, Ill. **IEN-0593**

CONTRACT WORK . . From aircraft parts to toys; notes on facilities for engineering, tool building, parts production, list of machines. "Facilities Report," 8 pages. A. W. Hecker Co., 7108-12 Euclid Ave., Cleveland 3, Ohio **IEN-0594**

CONTRACT WORK . . In stampings, fabricated assemblies, warm-air furnaces, garage doors; illustrated examples and facilities. "Story of Morrison," 4 pages. Morrison Steel Products Inc., 693 Amherst St., Buffalo 7, N. Y. **IEN-0595**

CONTROLS . . "Atcotran" differential transformer, a linear transducer; operation, uses, application schematics, instruments. Bulletin R-31, 12 pages. Automatic Temperature Control Co., 5212 Pulaski Ave., Philadelphia 44, Pa. **IEN-0596**

CONTROLS . . Electrode-type liquid-level control for conductive materials; description, components, motor controls, application schematics. "Floatless Controls," 36 pages. H/W Controller Corp., 2920 E. Maple, Birmingham, Mich. **IEN-0597**

CONTROLS . . Bin-level indicator for bulk material; sectional views and details on models, diagrams to show use in automatic level control. Bulletin BD-5, 29 pages. Bin-Dicator Co., 13944-91 Kercheval, Detroit 15, Mich. **IEN-0598**

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use WHITING CROSS-OVER BRIDGES

In freight terminals and locomotive repair shops, Whiting Cross-Over Bridges can be moved into position or out of the way by push-button control. They are of a screw-lift type that assures perfect safety in raised position so trucking units can run from dock to dock.

There are three general types of Whiting Cross-Over Bridges that can be designed to fit your specific requirements. Write for Bulletin MS-C-400, today, for more information.

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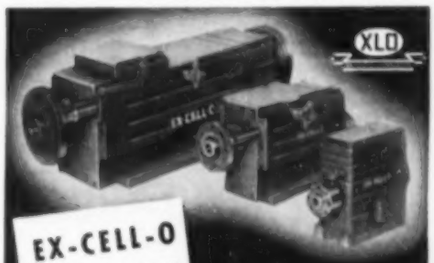

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THAT'S all you have to do with this Taylor Self-Acting Temperature Controller! Simple, dependable, needs practically no maintenance. Ideal where your process involves no extreme load changes. Where compressed air or electricity isn't available.

For jobs like: wax coating machines, plating and rinsing tanks, bottle and can washers, mixing and cooling kettles, hot water tanks, diesel water jackets, feed water systems, crude oil treaters, condenser cooler water in stills, oil field superheaters and others.

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Instruments for indicating, recording and controlling temperature, pressure, flow, liquid level, speed, density, load and humidity.

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Scalding Hot one minute . . . *Ice Cold* the next! What this shower needs is a POWERS Thermostatic Shower Mixer

That's right. Surest way to end shower bath complaints and possibility of accidents is to use POWERS thermostatic shower mixers. They're SAFE both ways . . . give sure protection against scalding or jumpy shower temperatures caused by **pressure** or **temperature** changes in water supply lines. Circular H48 describes the safest shower mixer made. Write for a copy. THE POWERS REGULATOR CO., 3437 Oakton Street, Skokie, Illinois. Offices in principal cities. (104)

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For Exposed Piping

POWERS
THERMOSTATIC SHOWER MIXERS

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*"A U.S. Navy Materials Handling Laboratory estimates that mechanized handling can cut 68% of the man hours needed for loading freight cars."
One user of 8 Moto-Truc Pallets cut the man hours unloading a boxcar from 16 to 4. Viz: —One man 4 hrs., formerly 2 men 8 hrs.

A "twist of the wrist" does it. SEND FOR Bul. No. 51

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PALLET PLATFORM AND HI-LIFT TRUCKS

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KEEPS MOTOR OUT OF AIR STREAM

For Foundries, Paint Spray Booths, Sanding, Acid Tank Rooms, etc., where fan motors must be protected.

Aerovent Belted Duct Fans with "Machete" design handle maximum air with minimum use of power. Sizes 12" to 84", 2, 4, or 6 blades. All fans furnished with ball bearing motors suitable for mounting in any position. Easily installed. For many applications.

Other Models: Direct Connected, Man Cooling, Extended Shaft, Duct Type, Pulley Drive.

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WIRE

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CONTINENTAL STEEL CORPORATION

NEW LITERATURE—Continued

CONTROLS . . "Dynamaster" potentiometer and bridge-type instruments for process variables; basic components, assemblies, applications. Bulletin P-1245, dated 1951, 36 pages. Bristol Co., Griggs & Kelsey, Waterbury 20, Conn. **IEN-0599**

CONTROLS . . Cam programmer thermometers for process time-temperature control; condensed data on instruments and accessories available. Catalog 6020, 16 pages. Brown Instruments Div., 4456 Wayne Ave., Philadelphia 44, Pa. **IEN-0600**

CONVEYING . . Woven cotton belts; properties, treated types, list prices by width and by number of plies, also data on coated belts. Pocket folder, 14 pages. Buffalo Weaving & Belting Co., 193 Chandler St., Buffalo 7, N. Y. **IEN-0601**

CONVEYING . . Woven-wire conveyor belts; pictures and notes on application in metal-working, ceramic, food-processing and chemical processing plants. Bulletin 105, 4 pages. Cambridge Wire Cloth, Vienna Rd., Cambridge, Md. **IEN-0602**

CONVEYING . . "Bulk-Flo" chain-flight conveyor and elevator for free-flowing material; size selection data, layout diagrams, application examples. Bulletin 2475, 28 pages. Link-Belt Co., 305-9 N. Michigan Ave., Chicago 1, Ill. **IEN-0603**

COUNTING . . Revolution, stroke, coil-winding, electric, photo-electric counters; data and list prices on these and batch counters. Catalog 54, 8 pages. Production Instrument Co., 700-10 W. Jackson Blvd., Chicago 6, Ill. **IEN-0604**

CRANES . . From revolver to truck-mounted units, also hoists, derricks, material elevators, winches, blocks, rope clips; summaries. Catalog GC-2, 32 pages. American Hoist & Derrick Co., 61 Robert St., St. Paul 1, Minn. **IEN-0605**

CUTTING . . Cutting torch that uses gasoline as fuel in combination with an oxygen supply; operating principle, performance, examples of use. "Browning Torch," 10 sheets. Steel News Industries Inc., Route No. 2, Cannonsburg, Pa. **IEN-0606**

CUTTING . . Carbide-tipped tools including centers, drills, milling cutters, reamers, solid carbide tools, tool bits; types, sizes, dimensions, list prices. Catalog 52, 72 pages. Wendt-Sohls Co., Collier & Tenth Sts., Hannibal, Mo. **IEN-0607**

CYLINDERS . . "Nopak" pneumatic and hydraulic units to 650 lb. and 1,500 lb.; construction, dimensions, valves. Bulletin SW-1, not previously released, 8 pages. Galland-Henning Mfg. Co., 2769 S. 31st St., Milwaukee 46, Wis. **IEN-0608**

CYLINDERS . . Pneumatic and hydraulic power cylinders, operating valves; picture review, suggestions on use to produce movement. "Cylinder Power in Action," 6 pages. Hanna Engineering Works, 1769 Elston, Chicago 22, Ill. **IEN-0609**

CYLINDERS . . Pneumatic power cylinder; two-page captioned cut-away view and description on flexible-seal cushion construction. Bulletin 252, 4 pages. Tomkins-Johnson Co., 615-19 N. Mechanic St., Jackson, Mich. **IEN-0610**

DIE CASTINGS . . In zinc alloy to a maximum of ½ oz. and 1¾ in. in length; standard, special and interlocked parts, suggestions on design. "Small Die Castings," 8 pages. Gries Reproducer, 793 E. 133rd St., New York 54, N. Y. **IEN-0611**

DRILLING . . Pneumatic feed attachment for a drill press; two-page captioned view and description, controls, accessories, application pictures. Bulletin DF-110, 16 pages. Bellows Co., 230 W. Market St., Akron 9, Ohio **IEN-0612**

DRILLING . . Automatic head with integral pneumatic feed for holes to $\frac{3}{16}$ in. in steel, $\frac{3}{8}$ in. in wood; sectional view, description, typical production setups. Bulletin 1004-52, 12 pages. Dumore Co., 1302-17th St., Racine, Wis. **IEN-0613**

DRIVES . . Worm-gear speed reducers; design, selection, ratings, dimensions, fan-cooled units, application examples. Catalog 400, letterhead request, 178 pages. Cleveland Worm & Gear Co., 3258 E. 80th St., Cleveland 3, Ohio **IEN-0614**

DRIVES . . "Tri-Matic" overload-release torque arm for company's speed reducer; description, drive location, dimensions and list prices on 11 sizes. Bulletin A-616, 4 pages. Dodge Mfg. Corp., 500 S. William St., Mishawaka, Ind. **IEN-0615**

DRIVES . . Multiple V-belt drives; selection instructions, stock drive tables, hp. ratings, quarter-turn drives, V-flat drives. Catalog 50-A, dated 9-51, 32 pages. Fort Worth Steel & Machine Co., Box 1038-A, Fort Worth, Texas **IEN-0616**

DRIVES . . Variable-speed mechanical transmission for 1/30 to ¼-hp. motor; detail operating description on cam-clutch action, sizes, rating table. "Zero-Max", 4 pages. Revco Inc., 4 E. Franklin Ave., Minneapolis 3, Minn. **IEN-0617**

DRIVES . . "Anchor-Waldron" overload cutout; description and engineering information on pulley and shaft-coupling types, application drawings. Catalog 51, 12 pages. John Waldron Corp., 452 River Rd., New Brunswick, N. J. **IEN-0618**

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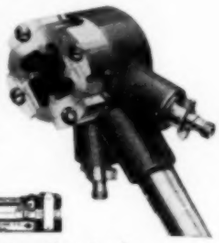
CUT PIPE THREADS CLEANER, BETTER, WITH LESS TIME AND LESS EFFORT

with the REED
REMOVABLE HEAD, SELF-FEEDING RATCHET THREADER

No pushing! Patented double-threaded throat leads die onto pipe.
Exclusive double-pawl ratchet cuts lost motion in half.
Positive-locking, quick-change heads will not fall out.



Convenient carrier supplied with sets of 3 or more heads.

Remember — In a vise or pipe tool if it's a REED it's RIGHT

REED TRADEMARK
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No Noise
No Vibration
No V-Belt Drives

THE SWECO SEPARATOR

Single or multi-deck vibrating screen employing an entirely new screening motion ★ No substructure vibration ★ Greater production capacities ★ Handles wet or dry materials ★ Laboratory accurate classifying and dewatering up to 325 mesh ★ Only 3 moving parts ★ Guaranteed screen cloth life ★ Lower maintenance and power requirements.

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Buy Direct from the Manufacturer and Save

Francis EST. 1880
FACTORY-MILL & WAREHOUSE TRUCKS
Cutting Handling Costs since 1880

3000-lb capacity

Complete Line —
For every use. Standard sizes 27" x 48" and 30" x 54" in stock ready for immediate shipment.

Need more good trucks quick? Buy direct from the manufacturer and save — time AND money. Francis heavy duty, economical trucks feature strong iron work — hardwood frame—rigid construction. All carefully machine fitted. Steel rims or rubber tires.

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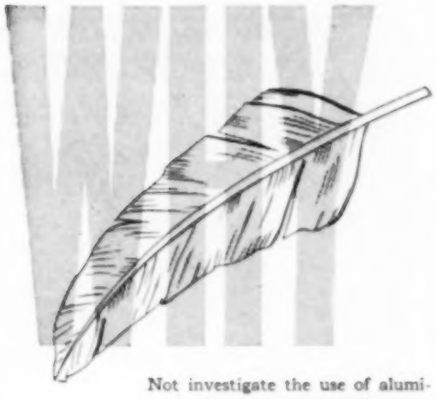

Not investigate the use of aluminum or magnesium castings on *your* product?

Almost a half-century of experience producing quality Well-Cast light metal castings in sand, semi-permanent and permanent mold-Well-Made Wood and Metal Patterns.

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DEPT. 9, 12800 SHAKER BLVD., CLEVELAND 20, OHIO

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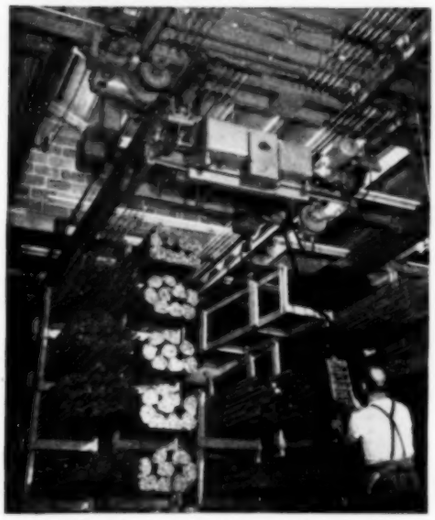
NOW UNLOAD CARS AND TRUCKS IN ONE TENTH FORMER TIME



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"With the Louden equipment shown in the photograph, we now unload incoming steel on railroad cars and trucks in 1/10th the time formerly required. For example, 120,000 pounds of steel bars tied in 3-ton bundles were unloaded, sparked, graded and moved into our warehouse in 1¾ hours. With our former handling methods, production was handicapped, inspectors could not work continuously, classifications were confused, and warehouse labor costs were excessive. Now just **one** man using the crane and hoist control shown does this entire handling job easily and safely."

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Case histories telling how Louden Monorail Systems have saved time and money for widely different kinds of industries are described and pictured in a new, illustrated, 36-page book called, "Economical Material Handling".

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Louden
OVERHEAD MATERIAL HANDLING

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Source: CHICAGO PRINTED STRING CO.
2302 Logan Blvd., Chicago 47, Ill.

No tools required

Three widths are ⅝, ½ and 9/16 in. in this new cotton strapping. It is supplied with a package of flat metal keys and a dispenser designed to hold one 500-yd. spool. Standard color is unbleached white. Solid colors and imprinted tapes can be specified. The strapping has sufficient strength for application on cartons weighing as much as 75 pounds. It meets Government Specification DDDT-90-a.

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Source: ACME PROTECTION EQUIPMENT CO.
3035-39 W. Lake St., Chicago 12, Ill.

Acts like a storm door

Protect-A-Valve trade names a new auxiliary valve that has been developed by the company for application over the main valve on its standard line of gas masks. The new unit prevents freezing temperatures from reaching the main valve. It also excludes vapors such as those from rubber solvents that might harm the main valve to prevent it from functioning properly. The new unit clamps in position and does not require any alteration to the standard gas mask.

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FUSE . . Knife blade design employs heat absorbing brass fins

Source: MONARCH FUSE CO.
116-20 E. First St., Jamestown, N. Y.

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Six brass fins, three spaced equally along each of the two fibre-bar supports characterize new construction in the company's line of fuses. The fins materially increase the previous heat-transfer surface to keep the interior of the fuse assembly cool and, by taking heat away from the fibre, they maintain internal strength for accurate alignment. The new design is available in sizes rating 600 amp. on 250 volts, also 400 and 600 amp. for 600-volts service.

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If you write maker identify as IEN - 6753

Buckingham Thread Restorer

Now — no more drilling or hack sawing to replace damaged male threads! Buckingham Thread Restorer eliminates flats and nicks — cleans heavily rusted and corroded threads on studs, bolts, pipes, threaded shafts.

Simple — quick. Just slip on a Buckingham Thread Restorer at bottom of damaged area and back-off. Jaws adjust to any pitch — SAE, ASME, pipe or tapered. One tool handles many sizes . . . no die sets needed!

Eight models for ¼" to 6" threads. Write for free folder and name of nearest dealer.

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49-51 Travis Street Binghamton N. Y.

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Save Valuable Manpower With Automatic Control

T-27 TIME SWITCH

- Adaptable to nearly every time-control job.
- Cuts manpower costs and gives increased efficiency.
- With astronomic dial it follows changing dusk-dawn schedules. An omitting device enables the switch to skip certain days.

Contact your nearest G-E sales office. General Electric, Schenectady, New York.

GENERAL ELECTRIC

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SELECTS B&S SHEAR-CUT SLITTER-REWINDER

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After considering several machines, the Bagley & Sewall #15 Shear-Cut Slitter-Rewinder was selected.

B & S Slitters and Rewinders are doing outstanding jobs in mills and converting plants all over the country. Their many unique money-saving advantages make them the first choice of the industry. Before you buy, *compare*...and your choice, too, will be B & S Slitting and Rewinding equipment.

For full details write to The Bagley & Sewall Company, Watertown, New York.

Inserts show Shear-Cut Slitter Units

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designers and builders of
WATERTOWN, NEW YORK
QUALITY MACHINERY SINCE 1883

Foreign Representative: CASTLE & OVERTON, INC., 630 Fifth Ave., New York 20

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Leakproof, full round flow

BALL VALVE

resists wear longer opens, closes quickly with quarter turn

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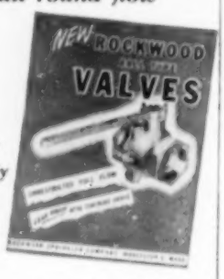

Ideal for handling water, air, carbon dioxide, nitrogen and other gases, paraffin and asphalt base petroleums, alcohol, paper fluids and many other types of liquids and gases.

Full, round, pipe-sized open area of Rockwood ball valves prevents chops of stream from altering . . . allows piping to handle fluids with minimum friction loss. Each valve constructed with chrome-plated, floating bronze ball that is extremely resistant to scratching, pitting, abrasion. Valve does not depend on mechanical parts to maintain proper alignment of ball and seat. Opens and closes with a quarter turn. Approved by Underwriters' Laboratories, Inc. For complete details, write us direct. Distributors in all principal cities.

ROCKWOOD BALL VALVES

ROCKWOOD SPRINKLER COMPANY

40 HARLOW STREET, WORCESTER 5, MASS.

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Designed for

TOOL ROOM EFFICIENCY

HUPPERT Model 11 FURNACE

Years of low-cost operation on heaviest schedules in tool and die shops, and laboratories have dictated these features for your economy. Huppert Automatic Temperature Control for accuracy to 2000° F. — Huppert Multi-Insulation, Heavy-duty Kanthal elements, and fully enclosed contacts. Counter-weighted, tight-sealing door. I.D. 8" x 6" x 12", 220 V. AC, 4½ KW max. load.

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Model 11	$240.00 (without Temp. Control)

OTHER MODELS

	I.D.	MAX. TEMP. FAHR.	KW	PRICE WITHOUT TEMP. CONTROL
Model 8s9	8" x 6" x 9"	2000°	4	$280.00
Model 12	8" x 8" x 12"	2000°	6	320.00
Model 12A	8" x 8" x 18"	2000°	9	400.00

		PRICE WITH TEMP. CONTROL
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All models can be supplied for 2300°F. operation for small additional cost.

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6856 Cottage Grove Avenue, Chicago 37, Illinois

Manufacturers of Electric Furnaces and Ovens

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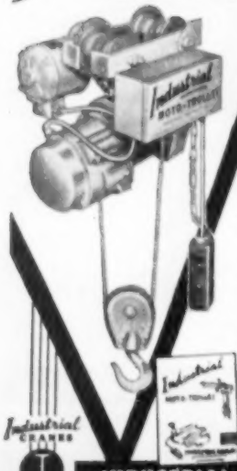
Industrial **MOTO-TROLLEY**



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ADJUSTABLE TO ACCOMMODATE WIDE VARIETY OF BEAM SIZES

- Crown-tread machine steel wheels with hardened drivers.
- Each wheel equipped with double-row precision ball bearings and removable-head axle with Alemite grease fittings.
- Powered by a crane-duty high-torque totally enclosed motor of 30 minute 55 degree rating.
- Magnetic contact panel has transformer to reduce voltage in single speed push button control circuit.
- 4-button control station operates single speed trolley and hoist motions.

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Representatives in Principal Cities.

NEW LITERATURE — Continued

DRYING . . Equipment to dry products from chemicals to textiles; ten picture examples with descriptive captions, notes on facilities. Bulletin 191, 4 pages. C. G. Sargent's Sons Corp., 352 Granite Ave., Graniteville, Mass. **IEN-0619**

DRYING . . Electric element to dry and heat by infra-red radiation; review of 10 points in design and use, ratings and list prices on standard units. Folder CS-604, 6 pages. Edwin L. Wiegand Co., 7505 Thomas Blvd., Pittsburgh 8, Pa. **IEN-0620**

DUST COLLECTING . . Application story on the use of Dustube collectors in the manufacture of roofing, installation schematics. Bulletin 322, 4 pages. American Wheelabrator & Equip. Corp., 1119 S. Byrkit St., Mishawaka, Ind. **IEN-0621**

DUST COLLECTING . . Equipment types, operating features, application and engineering data, standard sizes and dimensions, examples of use. Bulletin 900-A, 28 pages. Pangborn Corp., 230 Pangborn Blvd., Hagerstown, Md. **IEN-0622**

ELECTRONIC PRODUCTS . . Data-transmission equipment, analyzers, analog computer-plotter; products, personnel. "Faculties and Facilities," 32 pages. Electronic Associates, Naberal & Long Branch Aves., Long Branch, N. J. **IEN-0623**

ELECTRONIC TUBES . . Negative-control gas thyratron of 6.3-volt heater cathode type for motor control and inverter service; characteristics. "Type 6012," 4 pages. Radio Corp. of America, 413-17 S. 5th St., Harrison, N. J. **IEN-0624**

FASTENINGS . . Machine and sheet-metal screws, stove bolts; head types, sizes, list prices, shipping data. Catalog, letterhead request, 20 pages. Connecticut Screw & Rivet Co., 1088-92 Bank St., Waterbury, Conn. **IEN-0625**

FASTENINGS . . "Tangle-Proof" spring lock washers; list prices and dimensions on sizes from No. 2 to 1½ inch, in steel, stainless steel, bronze. Folder 255, 4 pages. Hobbs Mfg. Co., 46 Salisbury St., Dept. N-6, Worcester 5, Mass. **IEN-0626**

FASTENINGS . . Punch and die to form integral Prestole locknut in sheet-metal parts; information on design, selection chart, drawings. Catalog D, letterhead request, 8 pages. Prestole Corp., 1325 Miami St., Toledo 5, Ohio **IEN-0627**

FEEDING . . Inflatable-panel pulsating unit to keep bulk material in a bin from arching, bridging or funneling; operation, sizes, installation drawing. "PneuBin", 4 pages. Gerotor May Corp., P. O. Box 86-A, Baltimore 3, Md. **IEN-0628**

FILTERING . . Machine with traveling fabric belt to remove abrasives and chips from coolant; captioned pictures on operation, specifications. "Web-O-Matic," 4 pages. Honan-Crane Corp., 510 Indianapolis Ave., Lebanon, Ind. **IEN-0629**

FLOORS . . Sealing material for bituminous floor and pavement surfaces; questions and answers on properties and applications. "Meco Surface Seal", 8 pages. Maintenance Engineering Co., 14-18 W. Johnson, Phila. 44, Pa. **IEN-0630**

FOUNDRY . . Bucket-loader assembly to use with "Simpson" foundry-sand muller; construction features, ratings and dimensions on five sizes. Bulletin 485-A, 4 pages. National Engineering Co., 545 W. Washington, Chicago 6, Ill. **IEN-0631**

GAGES . . Micrometers, calipers, rules, other gages; also milling cutters, collets, screw-machine tools, pumps; descriptions, sizes, application data. Catalog 35, 224 pages. Brown & Sharpe Mfg. Co., 235 Promenade, Providence 1, R. I. **IEN-0632**

GAGES . . Contour machines for inspection or production checking operations; picture examples of what can be done, illustrated design features. Folder F3-50, 4 pages. Eastman Kodak Co., 341-5 State St., Rochester 4, N. Y. **IEN-0633**

GAGES . . Liquid-level sight gages; description of heated and cooled types for special conditions, construction views, pressure ranges, valves. Bulletin 179, 4 pages. Jerguson Gage & Valve Co., 80 Fellsway, Somerville 45, Mass. **IEN-0634**

GAGES . . Thread plug gages; tolerance tables on sizes to 12 in., 80 to 4 threads per in., for types X, Y and W; picture examples on a line. Bulletin, 4 pages. Metro Tool & Gage Co., 4238-42 W. Peterson Ave., Chicago 30, Ill. **IEN-0635**

GEAR CUTTING . . "Michigan Process" accurate unground holes; tolerances on precision- and commercial-ground, accurate and commercial-unground. Bulletin H-52, 4 pages. Michigan Tool Co., 7169 E. McNichols, Detroit 12, Mich. **IEN-0636**

GLASS . . Plate, safety, bullet-resisting, insulating, conductive-film, other types; descriptions, sizes, application and design suggestions. Bulletin SPD-52, 8 pages. Libbey-Owens-Ford Glass Co., 1947 Nicholas Bldg., Toledo 3, Ohio **IEN-0637**

GRINDING . . Pneumatic grinding heads, 35,000 to 100,000 rpm; specifications on two sizes, notes on air-lubricated bearings, construction. Folder 547, 4 pages. Pratt & Whitney, 49 Charter Oak Blvd., West Hartford 1, Conn. **IEN-0638**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

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One of the many specific uses of AETNA plywood — rotor blades for the famous Piasecki "HUP" Helicopter now in service with the Navy.

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AETNA—PLYWOOD for every purpose

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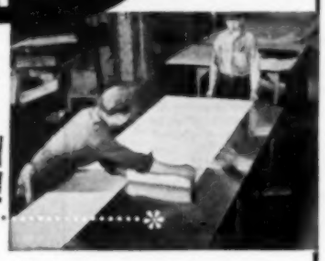
Mystik Protecto-Mask

SAVE that polished surface!



Here's sure protection for those expensive, highly polished surfaces—stainless steel, aluminum, plastics, many more!

• Keep them protected during *fabrication, storage, in shipment.* • MYSTIK Protecto-Mask is *Self-Stik* . . . goes on easily from the roll to surface, peels off easily. Leaves no residue. • Protects against scratches, and production damage . . . cushions blows . . . shields against splatter from welding arc. Can be used for layout and diagramming.

Ask your supplier or write for full information and sample. Mystik Adhesive Products, 2644 N. Kildare, Chicago 39.

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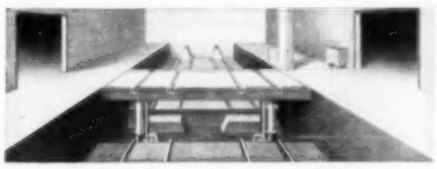

Take the short cut across spur tracks

WITH AN OILDRAULIC TRANSFER BRIDGE

• This new hydraulic bridge is the most effective way to "bridge the gap" between plant areas split by railroad tracks. It permits plant traffic to flow on a straight line without congestion and time-consuming detours. Operated by dependable, economical Oildraulic power unit with push-button control. When platform is lowered, the rails on the Oildraulic Transfer Bridge fit into permanent trackage for rail traffic. Ruggedly designed to carry heavily-loaded power trucks—capacities up to 100,000 lbs. as required. For complete data, write:

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World's largest builder of hydraulic lifts.

Rotary

Oildraulic Transfer Bridge

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Model 666-R

A Basic Tool

POCKET-SIZE VOLT-OHM-MILAMMETER With Self-Contained Resistance Ranges to 3 Megohms.

Note the wide ranges of this compact design. Note controls, flush with panel. Enclosed selector switch keeps dirt out, retains contact alignment permanently. Resistors, shunts, rectifiers housed in molded base integral with switch; no chance for shorts. Resistors are precision film or wire-wound types, each in its own compartment. Inside view shows details. Batteries easily replaced—positive grip coil assures permanent contact.

$26.50—AT YOUR DISTRIBUTOR
Prices Subject to Change

FOR THE MAN WHO TAKES PRIDE IN HIS WORK

Triplett

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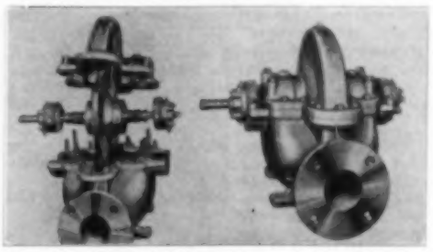
PUMP . . Single stage centrifugal, rates to 750 gpm. and to 230 feet

Source: PEERLESS PUMP DIVISION
West Ave. 26 & Humboldt St., Los Angeles 31, Calif.



Illustrated details in Bulletin B-1350

Five sizes are included in this new Type-AS general-purpose horizontal centrifugal pump with inlet connection at 2 to 5 in. and discharge at 1½ to 4 inches. Application is primarily in handling water and clear liquids at temperatures to 200 deg. F. Chief characteristic lies in the use of shaft seals that do not require as much axial space as previously employed standard packings. As a result the axial dimension over the housing ranges from about 15 to 20 inches or about one-half the length previously required in the company's packed pump.

Inlet and outlet are in horizontal positions at opposite sides of the lower half of the centrally-split housing so pipe connections need not be disturbed when the upper half of the housing is removed for access to the rotor assembly. When the top has been removed the rotor with the shaft seals and grease-lubricated ball bearings can be lifted out as a complete unit for repair or for replacement by a new complete assembly. The shaft seals are standard design.

The pump is available with drive by electric motor, engine or steam turbine. Alone it stands about 17 to 25 in. in height. It is hydraulically-balanced design with suction on both sides of the enclosed design impeller.

If you write maker identify as IEN - 6767

SEPARATING . . Air line unit discharges condensate, adsorbs vapors

Source: JAS. A. MURPHY & CO.
1419-23 High St., Hamilton, Ohio

Protects small tools

Compressed air traveling in a ½ or ¾-in. pipe line enters the central separator chamber of this new air-line unit. The condensate separates from the air and drops to a trap below the chamber. The air with its entrained vapors turns upward to the desiccant chamber at the top.

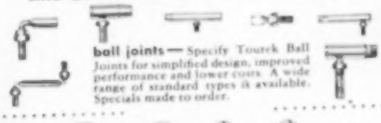
The vapors are adsorbed in this chamber so dry air issues from the top connection. The desiccant is visible through its transparent-plastic chamber wall. When it is seen to have turned amber it is removed and a new charge put in its place.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

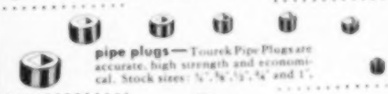
If you write maker identify as IEN - 6768

TOUREK

BALL JOINTS • PIPE PLUGS AND QUALITY SCREW MACHINE PRODUCTS



ball joints—Specify Tourek Ball Joints for simplified design, improved performance and lower costs. A wide range of standard types is available. Specials made to order.



pipe plugs—Tourek Pipe Plugs are accurate, high strength and economical. Stock sizes: ⅛", ¼", ⅜", ½", ¾" and 1".

screw machine products—You can depend on Tourek for "The Best In Quality Screw Machine Products." Complete facilities plus more than 50 years production experience are at your service.

LITERATURE. Data on Tourek products sent promptly upon request. J. J. TOUREK MFG. CO., 4701 W. 16th St., Chicago 50, Illinois

ESTABLISHED 1920

Our New Plant To Be Occupied In July

TOUREK

"THE BEST IN QUALITY SCREW MACHINE PRODUCTS"

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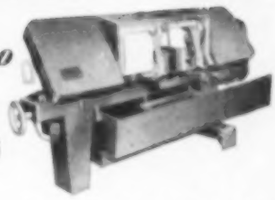
GET ACCURACY that SAVES STOCK . . .

. . . get *Kalamazoo* METAL CUTTING BAND SAWS



Here's *real* precision metal sawing that cuts waste to a minimum, saves hard-to-get stock. *Kalamazoo* Band Saws cut bars, rounds, flats, angles, odd shapes to within a few thousandths of size. What's more, there's an absolute minimum of kerf and *no* burr.

You can get Kalamazoo Metal Cutting Band Saws in three sizes . . . for cutting 6" to 12" rounds, 6" x 10" to 12" x 20" flats. Each model can be had with coolant system for continuous cutting. Each is available with casters for complete portability. Write for details on the many exclusive *Kalamazoo* features that spell *better cutting at lowest cost to you.*

MACHINE TOOL DIVISION

Kalamazoo TANK and SILO CO.

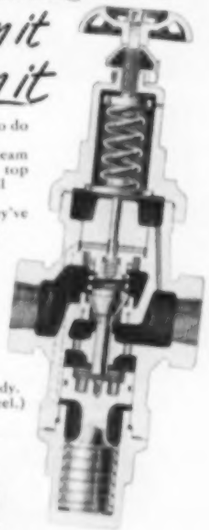
611 HARRISON ST., KALAMAZOO, MICHIGAN

If you write maker identify as IEN - 6770

Masoneilan No. 11

Pressure Reducing Valve

Just Clean it to Maintain it



Ordinarily that's all you have to do to keep this better-than-ever Masoneilan Pilot Operated Steam Pressure Reducing Valve in top operating condition. Users tell us it's the most accurate, dependable reducing valve they've ever installed. Service records indicate maintenance consists of little more than keeping the moving parts clean.

Easy to service, too — all parts may be removed with the valve in the line.

Initial pressures up to 250 lbs. reduced to any desired pressure between 10 and 90 lbs. or 75 and 225 lbs. Sizes ½" to 2" with bronze body. (Also available in iron and steel.)

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

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"BRALE"

Sphero-Conical DIAMOND BRALE® PENETRATOR for Hardened Steel

HOW IT WORKS

A. Minor Load Penetration
B. Major Load Penetration
C. Linear measurement of penetration increase which "ROCKWELL"* converts to hardness reading

BRALE Penetrator Accuracy Is Proved in Wilson's Standardizing Laboratory

One point of hardness on the Rockwell C scale equals .00008", so penetrator accuracy must be constant. That's why Wilson maintains its Standardizing Laboratory for testing and approving every BRALE penetrator.

Each BRALE is precision ground to shape under high magnification to research laboratory accuracy. Wilson's BRALE Penetrator gives true readings at all dial points. For accuracy use a diamond BRALE penetrator on your hardness tester. Write for literature.

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AMERICAN CHAIN & CABLE

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Perforated METALS

Fabricated, Too! at H & K

- Limitless Pattern Variety
- Uniform Hole Sizes and Spacings
- Forming Assistance and Facilities

FOR THOSE SPECIAL APPLICATIONS where Perforated Metals must take special form (filter plates, trays, conveyor linings, automotive radiator grilles and such), H & K offers complete fabricating facilities PLUS the experience of 68 years in precision perforating. H & K is fully equipped to roll, shear, braze, weld and otherwise fabricate to your specifications.

H & K RECOMMENDATIONS will be based on the most suitable metals, alloys (non-metals, too) available with all the desirable features of corrosion resistance, strength, smooth easily cleaned surfaces, dependably accurate patterns, etc., at low cost.

Also Remember—H & K Grilles . . . Ultimate in Beauty . . . Utility . . . LONG LIFE!

The Harrington & King Perforating Co.

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You'll find these products in SAFE HANDS!

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A must where hands come in contact with lubricating oils . . . Lifts shop grime from pores, gently but thoroughly. Contains a sterilized vegetable emollient which acts as an absorbent. Non-irritating . . . Keeps skin free of cracks where dermatitis starts. In powder form—bulks BIG at low cost.

BORSUDS

A borated soluble hand cleaner for heavy grime on tender skin. Contains finest medium and low filter soaps (the lower the filter the more quickly soluble the soap). Lathers richly even in fairly hard water, cannot clog drains.

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Extra-heavy duty hand cleaner. Removes ground-in grime, printing ink, stubborn dirt. Contains friable volcanic ash.

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See your DOLGE SERVICE MAN or write for literature.

dependable DOLGE

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THE EASY WAY TO TELL!

Changeable Letter Bulletin Board. The message you want—when you want it!

DAV-SON INDUSTRIAL BULLETIN BOARDS

Employee bulletins, safety messages, production records all get maximum attention when you use DAV-SON Bulletin Boards. There is a DAV-SON Bulletin Board for every purpose.

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Cork Back Boards. For letters, photos, posters, etc.

Write for complete information regarding your requirements.

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MANUFACTURERS OF BULLETIN BOARDS FOR EVERY USE

NEW LITERATURE—Continued

HANDLES . . Pull knobs and control handles made of Tenite-II plastic from stock molds; dimensional drawings, thread data for molded bushing, colors. Bulletin 20, 2 pages. Arens Controls, 2015-19 Greenleaf, Evanston, Ill. **IEN-0639**

HANDLING . . Sling chains in steel, iron, stainless steel, Monel, Everdur bronze; selection, size and rating tables, load-limit diagrams. Catalog DH-314, 32 pages. American Chain & Cable Co., 927-31 Conn. Ave., Bridgeport 2, Conn. **IEN-0640**

HANDLING . . Four-rope clamshell buckets for handling bulk material; typical models and uses, construction points, reeving, cable data. Bulletin 2362, 44 pages. Blaw-Knox Co., 2060 Farmers Bank Bldg., Pittsburgh 30, Pa. **IEN-0641**

HANDLING . . Wood pallets in standard, reversible, four-way and other designs; drawings, load limit data, application suggestions. "National Pallets," 16 pages. National Pallet Corp., 1301 Oliver Bldg., Pittsburgh 22, Pa. **IEN-0642**

HANDLING . . Eccentric-shackle lifting clamps for ½ to 6-in. plate, capacities to 20 ton; description and list prices on clamps and parts. Bulletin 900, 8 pages. J. C. Renfroe & Son, 1257-61 W. State St., Jacksonville 1, Fla. **IEN-0643**

HANDLING . . Roll-equipped platform to handle loaded pallets in and out of transportation equipment; data on three models, all 4,000 lb. Bulletin 104, 4 pages. Frank L. Robinson Co., 1951 Latham Square Bldg., Oakland 12, Calif. **IEN-0644**

HARD FACING . . "Ranite" electrodes and rods; types, properties, sizes, typical uses, suggested procedures for arc and torch equipment. Bulletin B-4, 8 pages. Rankin Mfg. Co., 2970-74 W. Pico Blvd., Los Angeles 6, Calif. **IEN-0645**

HEATING . . Unit to supply controlled-temperature water to plastic machine molds; general description, application illustrations. Folder, "Thermolator", 4 pages. Industrial Mfg. Co., 29-33 E. Georgia St., Indianapolis 4, Ind. **IEN-0646**

HOSE . . Hydraulic hose assemblies with swaged-on fittings; standard sizes, instructions on computing length, recommended lengths, hose data. Bulletin 1402-H, 4 pages. Pyles Industries Inc., 8924-28 Second Ave., Detroit 2, Mich. **IEN-0647**

INSULATING . . Steatite parts for electrical products; physical properties on four grades, examples of use as heating cores, bobbins. "Lava for Industry," 8 pages. M. Kirchberger & Co., 1423-27 37th St., Brooklyn 18, N. Y. **IEN-0648**

IRON . . Properties of ductile cast iron, suggested applications making use of these properties, picture examples of parts cast by the company. Bulletin DI-512, 8 pages. Wilmot Engineering Co., 352 Hazle Ave., Hazleton, Pa. **IEN-0649**

KEYSEATING . . "Glenny" adjustable push broaches to cut internal keyways; operating instructions, sizes, adapter bushings, list prices, examples of work. Bulletin 13, 4 pages. Kase Machine Co., 18423 Buffalo Ave., Cleveland 19, Ohio **IEN-0650**

LATHE ATTACHMENTS . . Adjustable face plates to hold a variety of work for machining on a lathe; sizes, examples, also vises, accessories. "Micro Face Plate", 6 pages. Micro Lathe Plate, 1263-67 W. 2nd, Cleveland 14, Ohio **IEN-0651**

LIGHTING . . Special lamps and special applications described as application stories from aircraft refueling to deep-sea diving. "See Better-Work Better" No. 6, 8 pages. General Electric Co., 1 Nela Park, Cleveland 12, Ohio **IEN-0652**

MACHINING . . Contract service for jig boring, cam milling, parts fabrication, manufacture of glass-working machines; facilities, picture examples. Catalog 52-CN, 20 pages. Eisler Eng. Co., 748-52 S. 13th St., Newark 3, N. J. **IEN-0653**

MARKING . . Self-adhesive labels and markers for pipe, wire, also safety signs, masks and stencils, printed tape; sizes and list prices. Catalog, 50 pages. W. H. Brady Co., 1630 E. Spring St., Dept. 236, Chippewa Falls 9, Wis. **IEN-0654**

MARKING . . "Safe-Hed" steel stamps in code symbols to mark, identify, date; picture examples of some 400 types, size chart, list prices. Bulletin A-1 Catalog 146, 6 pages. James H. Matthews & Co., 2948 Forbes St., Pittsburgh 13, Pa. **IEN-0655**

METALS . . Prefinished-color strip to 30 in. in width, .006 to .040 in. in thickness, requiring no finishing after forming; properties, sample. "Enamelstrip", 4 pages. Coated Coil Corp., 539 W. 30th St., 1st Floor, New York 1, N. Y. **IEN-0656**

METERS . . Vacuum-tube electrometer, a dc. voltmeter with very high input impedance; description, uses, accessories. "Model 200 Electrometer", 4 pages. Keithley Instruments, 3866-70 Carnegie Ave., Cleveland 15, Ohio **IEN-0657**

MILLING . . Bench-type machine for horizontal or vertical work, also for turning, grinding, drilling; basic description, application views, accessories. Form 4223, 4 pages. Benchmaster, 1833-37 W. Rosecrans Ave., Gardena, Calif. **IEN-0658**

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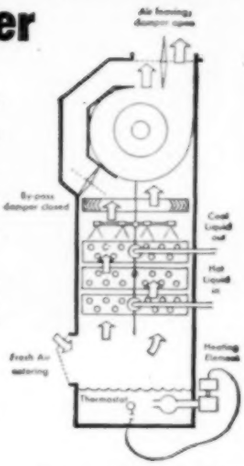
If you write maker identify as IEN - 6775

NIAGARA Aero Heat Exchanger



1. Extends quenching capacity without extra water or cooling tower.
2. Quickly pulls down heat at initial peak load of Quenching.
3. "Balanced Wet Bulb" Control holds quench bath at proper temperature, heating if needed to start after shut-down, and cools or heats by automatic control.
4. Saves cleaning expense as compared to cooling tower which picks up acids and fumes from air.

APPLICATIONS
Quench Oils
Cutting Oils
Lubricating Oils
Cooling Water

For help in increasing production, saving of cooling water, write for Bulletin No. 120. Address

NIAGARA BLOWER COMPANY
Over 35 Years of Service in Industrial Air Engineering
Dept. EN, 405 Lexington Ave. New York 17, N. Y.
Experienced District Engineers in all Principal Cities of U. S. and Canada

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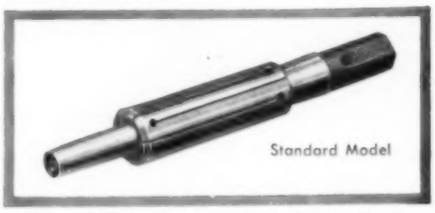
CHAMPION
E-X-P-A-N-D-I-N-G
MANDRELS

work savers—cost cutters
job speeders—in any shop

Save the time spent tooling up solid mandrels. CHAMPION mandrels automatically expand to exact, positive, concentric fit as the flexible sleeve is moved along the tapered arbor. Work is quickly set up; easily taken down. Your production costs are cut, whether the job calls for machining only one piece or ten thousand pieces.

Precision Model positively guaranteed for precision grinding, turning and milling operations. Ideal where accuracy and time-saving are of utmost importance. Available in standard sizes from ½" through 3" diameter, graduated by 1/16". Arbor built for heavy loads. Sleeve has range of .010", from .003" under to .007" over nominal size. Positive stop at maximum size prevents overstrain. Holds tolerances of .0002" run out. Withstands hardest wear; permanent accuracy is assured.



Standard Model used throughout the world. Standard tool room equipment in all phases of modern industry. A set of twelve will completely and accurately fill any hole from ½" to 7" diameter—replace hundreds of solid mandrels costing many times as much. Show negligible wear after years of use. Maintain close tolerances; handle material of any length bore, hard or soft metals, from thin tubes and bushings to heavy castings and forgings.

CHAMPION Expanding Mandrels can be made in special shapes and sizes to fit any specification. Quotations on request.

When writing, please address Dept. 200.

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SPRINGFIELD, OHIO

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For Production Stud Setting, Drilling, Tapping and Assembly

Automatic Self-Opening Stud Driver — 100 Series

Automatic take-up for wear on jaws. Affords accurate maintenance of projection heights. Inexpensive method of clutch renewal gives double wear at half the cost.

Titan-Kirkland Combination Stud Driver and Puller

Incorporates roll action to grip as little as ½" of unthreaded body of stud. Made in T-Handle, Ratchet, and Power styles.

Solid Type Stud Driver

Built for rugged use on heavy engines. Equipped with Titan Design, Loose Pressure Plunger. Definitely stands up under vibration encountered when using an impact wrench for motive power.

Titan Quick-Change Chuck

Affords closest possible center to center set-ups, with quick change and positive drive. Included Exclusive Slip Ring under tension a distinct advantage in turret lathe application.

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Production Tools

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LULL side-loading TRAVELOADER

...gives you

Straight-Line MATERIALS HANDLING

One man

LOADS... CARRIES...
UNLOADS... STACKS...

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BACKING AND TURNING!

Straight-line production methods call for straight-line materials handling if maximum benefits are to be gained. And that's one important way in which Lull Traveloader can step up the efficiency of your operations. One side-loading Traveloader using a straight-line system, can do the work of 2 or 3 conventional machines . . . do it faster and in half the space!

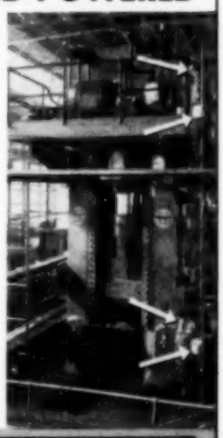
This Bulletin gives you complete information on all the ways in which Lull Traveloader can save you manhours and money. You can't afford to be without this information. Write for your copy . . . TODAY!

LULL MANUFACTURING CO.

362 West 90th Street • Minneapolis 20, Minn.
EXPORT OFFICE: 105 West Fourth St., Cincinnati 2, Ohio
Cable Address: "Repint"

If you write maker identify as IEN - 6780

U.S.I. SOUND POWERED TELEPHONES HELP ADJUST GIANT PRESS



After assembly, it takes two skilled men to adjust Lake Erie Engineering Corporation's 26-foot high, two million pound, artillery shell press. Cooperative precision adjustments, between one tester and the other are imperative. There must be no misunderstanding — even in a noisy shop.

To insure "correctly interpreted instructions" Erie supplies each tester with a complete U. S. I. Sound Powered Station. The result is conversational clarity, portability, and without the fuss of batteries.

UNITED STATES INSTRUMENT CORPORATION
SUMMIT • • • NEW JERSEY

If you write maker identify as IEN - 6781

GRINDING . . Abrasive belt machine for flat, radius and contour work

Source: GEORGE F. GRANT CO.
282 Box E, West Newton, Mass.

About $1,000

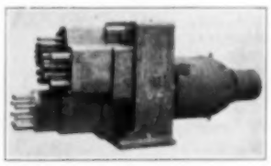
An abrasive belt measuring 2½ in. in width by 60 in. in length rides between a motor-driven contact wheel and an idler spindle that can be adjustably positioned in this new Model UM-60 machine. About midway between the two spindles, on one side of the machine, is a contour idler. On the opposite side the belt is backed up by a 3 by 9¼-in. steel platen. Tables measuring 10 by 12 in. are located at the contact wheel and the idler spindle. A 6 by 6-in. table can be secured either at the platen or the contour idler.

The machine can be operated in the position shown in the illustration with the wheel spindles vertical. It can be rotated through 90 deg. so the wheel spindles will be horizontal and the belt also horizontal or it can be hinged upward so one spindle is above the other for vertical belt movement. The base is fitted with a door and two shelves. It measures 16 by 18 by 26 in. to bring the machine table at convenient height for a worker standing beside it. Standard contact wheel is 6, 7 or 8 in. in diameter. The idler spindle is interchangeable in a range of diameters from 1 to 2 inches.

If you write maker identify as IEN - 6782

THREADING . . Multi-spindle head, 38 individual lead screw spindles

Source: UNITED STATES DRILL HEAD CO.
614-18 Burns St., Dept. B, Cincinnati 4, Ohio



Built for specified jobs

Thread sizes range from ⅛-in. 27 straight to ¾-in. 14 taper pipe among the 38 spindles in this new motor-driven tapping head. Each spindle is equipped with its own lead screw and is fitted with a safety tap holder that permits its tap to stop and retract in reference to the continuing forward spindle feed if the tap meets an obstruction. When all spindles return to their starting position, the holder that has permitted retraction moves back into operating position ready for the next work piece.

Drive is by a 25-hp. motor operating at 1,200 rpm. with reversing control. A cycle starts when the operator presses a button on the master panel to start the spindles rotating in tapping direction and advancing forward due to their lead-screw control. At the end of the predetermined stroke a geared limit switch, operating through the master panel, plugs and reverses the motor. Then the spindles reverse and retract to their original starting position where the limit switch opens the motor circuit. The action is accompanied by engagement of a brake to stop rotation quickly.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6783

AMERICAN ELECTRIC
Model 275
MOTOR ALTERNATOR

1000 TO 1800 WATTS
400 CYCLE POWER SUPPLY
IN LESS THAN A 2 FOOT PACKAGE!

Small, light, compact, equally satisfactory on permanent or portable installations. Low speed —quiet operation. Meets power supply requirements for AN-E-19 equipment. Multiple units efficiently replace one single, large-capacity alternator . . . Save space, cost far less, protect against breakdowns!

NEW PRINCIPLE uses no moving coils, brushes, springs etc. . . . *It's as completely wear-free as its ball-bearings!*

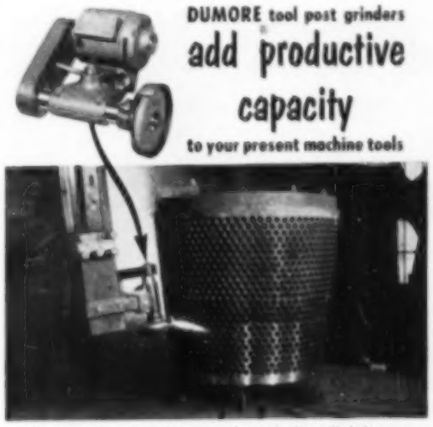
Capacities up to 1000 Watts single phase or up to 1800 Watts three phase. Single or 3 phase common-shaft motor drive. Larger capacities available.

WRITE FOR DETAILS!

AMERICAN ELECTRIC MOTORS
TRADE MARK

If you write maker identify as IEN - 6784

DUMORE tool post grinders add productive capacity to your present machine tools



A Dumore tool post grinder, mounted on a boring mill, halves production time grinding perforated, tapered cast-iron strainer cores.

MOUNTED on most machine tools, a Dumore grinder will machine the workpiece and finish grind without changing setup. Delivers precision work to .0001" accuracy. Used for production in the shop, it turns out highest-quality work. Ideal for tool room and maintenance use. Reduces labor and handling costs; increases machine capacity. Ask your distributor for a demonstration, or write

THE DUMORE COMPANY
1319 Seventeenth Street • Racine, Wisconsin

If you write maker identify as IEN - 6785

LIFESAVER for sensitive surfaces!

You can actually walk on the protective coating as you pull it back, without danger to the surface it covers! It's a strippable coating based on VINYLITE Brand Resins . . . tops in temporary protection for delicate, polished metal and glass finishes!

Tough and flexible, strippable coatings based on VINYLITE Resins form a strong skin that protects against handling, abrasion, scratches and tarnish. It's resistant to gas, oil, and water. Shock-absorbent and resilient, it can be left on metal sheets during forming and drawing operations, protecting their polished surfaces from die marks.

Repolishing and rebuffing of metal is reduced—surfaces stay smooth and clean. Time is saved—components are protected while others are being machined. Rejects are minimized, since strippable coatings formulated with VINYLITE Resins can be left on the product until delivery to the ultimate user.

Strippable coatings can be applied before fabrication or during any stage of production, using standard spraying equipment at room temperature. They are easily removed by peeling or by blowing them off with an air hose.

Put these coatings into your design and production plans. Learn more about them and VINYLITE Resins that are so useful to defense and basic industry, by writing Dept. NG-5.

Data on 3M Strippable Coatings courtesy Minnesota Mining and Manufacturing Co., 411 Piquette Ave., Detroit 2, Mich.

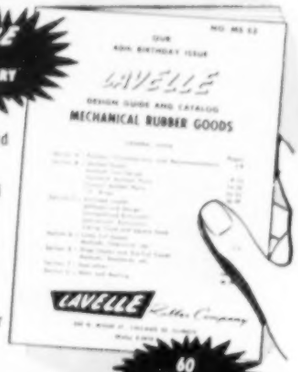
Vinylite RESINS

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

If you write maker identify as IEN - 6787

INDUSTRY HAS NEVER SEEN ANYTHING LIKE IT!

LAVELLE 40th ANNIVERSARY ISSUE



Characteristics And Recommended Usage For Natural And Synthetic Rubber Polymers, And Complete Design Data On Mechanical Rubber Specialties!

60 PAGES

LAVELLE Rubber Company

1811 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

If you write maker identify as IEN - 6788

Here's how Pangborn

Solves these Problems

with this modern equipment

BLAST CLEANING!

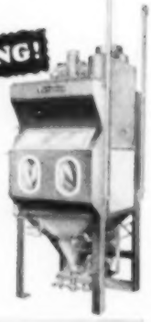
Blast Cleaning Cabinet quickly and easily cleans metal parts of rust, grime, dirt, paint, etc. Produces a clean, smooth surface on pieces up to 60" x 36". Models available from $319.00 and up.

Blast Cleaning Machine not only removes rust, dirt, scale, etc., but is ideal for maintenance and many other uses. Cleans large objects such as bridges, structural work, tanks before painting. Six sizes, portable or stationary, from $170.00 and up.

DUST COLLECTING!

Unit Dust Collector stops dust at its source, minimizes machine wear and tear, reduces housekeeping and general maintenance costs. Solves many grinding and polishing nuisances. Reduces material losses. Models from $190.00 and up.

PRECISION FINISHING!



Hydro-Finish Cabinet uses liquid blast, eliminating dust and reduces costly hand polishing, cleaning and finishing of molds, dies, tools, etc. Removes scale, discoloration and directional grinding lines, prepares surfaces for plating and coating. Holds tolerances to .0001". Models from $1,100.00 and up.

LOOK TO PANGBORN FOR THE LATEST DEVELOPMENTS IN BLAST CLEANING AND DUST CONTROL EQUIPMENT

Panqborn

MAIL COUPON for full details

(Check for more information)
- Blast Cleaning Cabinets
- Blast Cleaning Machines
- Unit Dust Collectors
- Hydro-Finish Cabinets

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.

Gentlemen: Please send me more information on the equipment I've checked at the left.

Name .....

Company .....

Address .....

City ..... Zone ..... State .....

NEW LITERATURE—Continued

MILLING . . Automatic contour machine for long parts such as aircraft spar beams; specification table, construction points, typical installations. Bulletin 1136, 6 pages. Onsrud Machine Works, 3960 Palmer St., Chicago 47, Ill. **IEN-0659**

MIXING . . "Lightnin" Series E turbine-type mixers for open or closed tanks, 1 to 500 hp.; illustrated construction points, selection tables, design. Catalog B-102, 32 pages. Mixing Equipment Co., 200 Mt. Read, Rochester 11, N.Y. **IEN-0660**

MOTORS . . Squirrel-cage induction motors, drip-proof and splash-proof, 15 to 800 hp.; illustrated construction points, rating chart. Bulletin 51-B-7020, 6 pages. Allis-Chalmers Mfg. Co., 900 S. 70th St., Milwaukee 14, Wis. **IEN-0661**

MOTORS . . And controls for chemical process use; major service requirements and company's equipment. Booklet B-4792, 32 pages. Westinghouse Electric Corp., 511 Wood St., Dept. IEN, Room 1110, Pittsburgh 30, Pa. **IEN-0662**

PAINTING . . Plastic-base material that resists corrosion, weather, abrasion; properties, application instructions, performance test data, uses. Bulletin, "Corrosite", 8 pages. Corrosite Corp., 514 Chrysler Bldg., New York 17, N. Y. **IEN-0663**

PAINTING . . Aluminum paints in heat-resistant, acid and alkali-resistant, rusted-fence types; summary of properties, unit quantities, list prices. "Choose and Use . .", 4 pages. Skybryte Co., 3123-27 Perkins Ave., Cleveland 14, Ohio **IEN-0664**

PAINTING . . Line of maintenance paints; data summaries on rust-inhibiting, aluminum, non-skid, water-proofing, masonry paints, enamels, caulking. Bulletin 400, 4 pages. United Labs., Inc., 16803 Euclid Ave., Cleveland 12, Ohio **IEN-0665**

PIPE . . "Johnsonite No. 4" extruded plastic pipe in ½ to 6-in. sizes; table of physical properties, weight comparisons, petroleum-industry service. Catalog 352, 4 pages. Johnson Plastic Corp., 452 Brown Road, Chagrin Falls, Ohio **IEN-0666**

PLASTICS . . Polyester resins to use in making reinforced plastics; review of materials, detail data on properties including ten graphs. Booklet H-16, 32 pages. Bakelite Co., 30 E. 42nd St., Dept. 1503, New York 17, N. Y. **IEN-0667**

PLASTICS . . "Lumite" woven-Saran fabric; properties, pictures of applications from seat covers to luggage to suggest applications. "Looking for Something . .?", 16 pages. Chicopee Mfg. Co., 38-42 Worth St., New York 13, N. Y. **IEN-0668**

PLASTICS . . Low-pressure laminated materials; properties, adaptations, parts. "Strux" expanded plastic. "Reinplastics," letterhead request, 20 pages. Russell Reinforced Plastics Corp., 43-47 W. John St., Hicksville, N. Y. **IEN-0669**

PLASTICS . . Tough shatterproof material for product fabrication; physical properties, general description, illustrated examples from acid hoods to signs. "Royalite", 8 pages. U. S. Rubber Co., 1232 Sixth Ave., New York 20, N. Y. **IEN-0670**

PRESSES . . Tablet-making machines for products from aspirin to powdered metal; picture review, two-page summary specification chart. Catalog 800, 24 pages. F. J. Stokes Machine Co., 5956 Tabor Road, Philadelphia 20, Pa. **IEN-0671**

PRESS ATTACHMENTS . . Stock feeds, straighteners, coil cradles, scrap cutters; descriptive data. "Sesco Press Room Equipment", 4-page bulletin with 8 sheets. Special Engineering Service, Inc., 8159-63 Livernois, Detroit 4, Mich. **IEN-0672**

PRESS TOOLS . . Standard and special punches, dies, punch couplings, rivet sets, compression riveter dies; dimensions. Catalog 46, 4th edition, 48 pages. George E. Marchant Co., 1422-32 S. Rockwell St., Chicago 8, Ill. **IEN-0673**

PRESS TOOLS . . Made on the job from plastic-bonded compressed wood; description in article form on a variety of applications. "Tooling with Parkwood", 4 pages. Parkwood Laminates Inc., 22-26 Water St., Wakefield, Mass. **IEN-0674**

PRESS TOOLS . . "Hydra-Strip" hole punching units for mild steel to ¾ in.; details on hydraulic stripping action, dimensional drawing, ratings. Bulletin HS, 4 pages. Wales-Strippit Corp., 361 Payne Ave., N. Tonawanda, N.Y. **IEN-0675**

PRINTING . . "Portagraph" photocopy machines for drawings, sketches, charts, printed forms, documents; features, models. Folder P-307, 6 pages. Remington Rand Inc., 315 Fourth Ave., Room 1618, New York 10, N. Y. **IEN-0676**

PROTECTING . . Work gloves in fabric, leather, coated-fabric types; recommended selection procedure by material, wrist, pattern. File folder, "Work Glove Selector", 4 pages. Ross Mfg. Co., 1936-40 Ferry St., Kewanee, Ill. **IEN-0677**

PUMPS . . Series-2000 reversible oil-hydraulic gear pumps; performance data in tabular form, dimensional drawings, modifications. Leaflets 128 and 129, 2 pages. Hydraulic Equipment Co., 1102 E. 222nd St., Cleveland 17, Ohio **IEN-0678**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6790

OZITE all-hair felt has an outstanding record for solving problems of cushioning, padding, thermal and sound insulation. Our research and engineering staff are ready to give you competent assistance should you have any problems in these or similar applications.

OZITE felt in standard weights and thicknesses meets most production requirements. Special weights and thicknesses; as well as paper, cloth, or foil backings and stitched reinforcements may be had in production quantities.

Write today for OZITE bulletin No. 1500. If you desire samples for test, simply send a brief description of your application.

AMERICAN HAIR & FELT CO.

Dept. X26, Merchandise Mart Chicago 54, Illinois

If you write maker identify as IEN - 6791

FLEXIBLE

METAL HOSE

For every industrial purpose wherever flexing, vibration, or movement is involved.

For pressures to 20,000 P.S.I. Temperatures to 2,000° F. — or for vacuum service or sub-freezing temperatures. Available as random length hose or as assembled units with fittings.

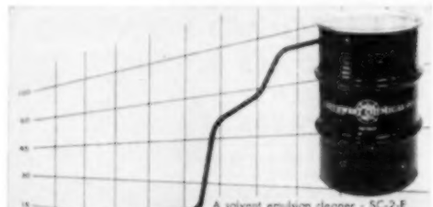
Made in — Seamless Bronze — 3/16" I.D. to 10" I.D.
Carbon Steel — 1/4" I.D. to 20" I.D.
Stainless Steel — 1/4" I.D. to 4" I.D.

WRITE US FOR CATALOG

PACKLESS METAL PRODUCTS CORP.

31-40 WINTHROP AVE. • NEW ROCHELLE, N. Y.

If you write maker identify as IEN - 6792



A solvent emulsion cleaner - SC-2-E is outstanding in its field. It has found wide application as the precleaner for buffing compounds on non-ferrous metals when followed by further stages of spray or sock cleaning. Currently SC-2-E has demonstrated its value in removing lapping compounds and Magnaflux powders in one and two stage washers . . . . . write for a 24 page brochure describes all NORTHWEST products.

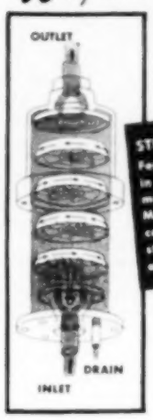
1951-1952 growth of NORTHWEST CLEANER Number SC-2-E. in Sales Volume

NORTHWEST CHEMICAL CO.

'32

If you write maker identify as IEN - 6793

Why does an ARIDIFIER



REMOVE 92% OIL, WATER AND DIRT FROM GAS AND AIR LINES?

STUDY EXPLODED VIEW FOR ANSWER
Four multi blade rotors revolve at high speed in opposite directions under impact of air movement through non-aligned rotor spaces. Moisture, dirt and other foreign matter which collect on rotor blades are thrown out of air stream by centrifugal force to side of housing and pass into drain.

For paint and lacquer spraying, ceramic, sand blasting, air cleaning, etc. Easily replaces less efficient baffle type devices. Tell us details of your problem when you write for a catalog.

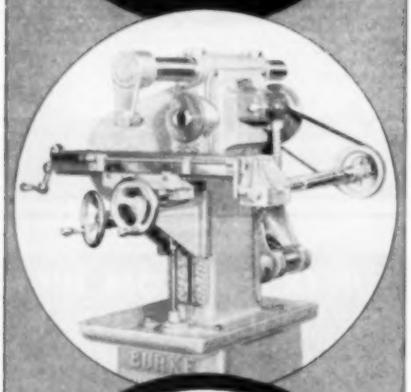
CAPACITY RANGE AS LOW AS 7 CFM TO 17,000 CFM

Made By The Manufacturers of Logan Lathes and Shapers.

Logan ENGINEERING CO.
4902 W. LAWRENCE AVE., CHICAGO 30, ILLINOIS

If you write maker identify as IEN - 6794

SPEED PRODUCTION
OF SMALL PARTS
AT SMALL COST
with dependable
BURKE
BENCH MILLERS



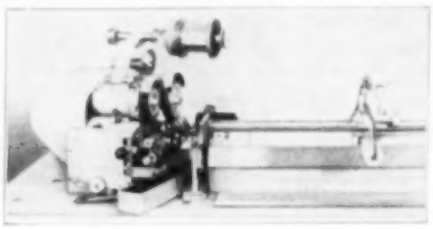
Bear-for-work Burkes, in hand and power feed models are cutting time and cost on jobs formerly done on big millers in many modern production lines. Versatile Burkes are also on duty in thousands of tool, development, repair and school shops. Send for circulars describing models and attachments.

THE Burke MACHINE TOOL CO.
A Division of U. S.-BURKE MACHINE TOOL CO.
BROTHERTON ROAD 5, CINCINNATI 27, OHIO

If you write maker identify as IEN - 6796

WINDING . . Roll type machine to coil electrical resistance wire

Source: DRIVER-HARRIS CO.
203 Middlesex St., Harrison, N. J.



For flawless electric heating elements

Precision coils with identical characteristics, electrical and mechanical, from one turn to the next are produced and cut off to exact duplicating lengths completely free from tool marks by this new roll-type machine. The company has developed it in connection with its manufacture of Nichrome electric heating-element wire.

The machine takes interchangeable mandrels for No. 20 to No. 26 B & S gage wire. Pitch is variable. The wound coils feed onto a cut-off unit measuring 31 or 40 in. in length where a photoelectric control and solenoid-operated knife mount.

Three major elements include the motor-driven winding head, the cut-off unit and a table on which the two can be mounted. Overall table dimensions are 52 by 24 by 36½ inches. Total weight of the assembly is 160 pounds. The two units position at various angles in relation to each other to suit the coils being produced at a given time.

The knife operates under control of the photoelectric head. It cuts each length off clean while the coil is momentarily deflected to permit the knife to retract without binding.

Wire feeds from a spool through a tension control and down under a guide pulley through a soap-water solution. Then it turns upward to enter between the centrally-located mandrel and one of the two pitch rolls. It moves from this position around the mandrel to pass between the mandrel and the second pitch roll in formation of the coil.

The two forming rolls are mounted at the ends of flexible shafts which permit them to operate at an adjustable angle with the mandrel. They are suitably backed and their shafts are driven at variable speed by means of a Graham transmission belt-connected to the motor. The motor also carries a second sheave on its opposite end for belt connection to the mandrel shaft.

The mandrel is held in a chuck on the forward end of its shaft. Controls for adjustment in initial set up are located at the front and sides. They require no attention once the set-up has been made.

If you write maker identify as IEN - 6797

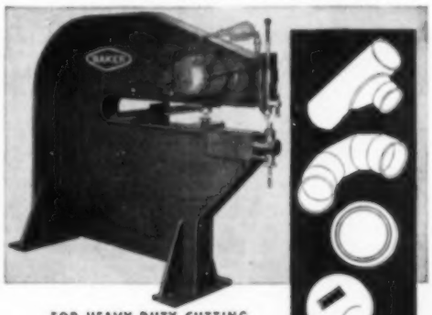
MANAGEMENT . . Personnel administration described as to both theory and practice in new textbook

Ronald Press Co.
15 E. 26th St., New York 10, N. Y.

William W. Waite, Associate Professor of Industrial Engineering at Columbia University, has used his experience in teaching and industry as the basis for new 684-page book. Title is "Personnel Administration." List price is $7. Four major parts describe starting a personnel administration program, assembling the force, keeping the force going, dealing with the force. There are some 100 illustrations, charts.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6798

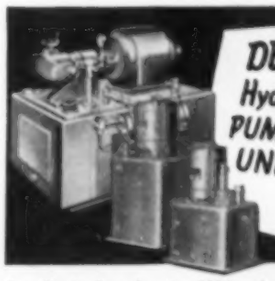


FOR HEAVY DUTY CUTTING
IT'S THE BAKER TRU-EDGE SHEAR
CHECK THESE FEATURES
- BURR FREE EDGE
  no finishing operation necessary
- EASY TO OPERATE
  no starting hole necessary
- 48" THROAT
- DOES BEADING AND FORMING
- CUTS 10 TO 36 FEET PER MINUTE
- ONLY 5 MOVING PARTS
- CAPACITY 6 GAUGE IN MILD STEEL
  7 GAUGE IN STAINLESS STEEL
- DELIVERY FROM STOCK
- COST? . . . $1960.00 f.o.b. TOLEDO

In actual cases on record, the Baker Tru-Edge Contour Shear cuts operating time to less than 1/10 of the time required on other machines. The Tru-Edge Contour Shear is made by Baker Brothers, Inc., under license from Industrial Devices Corp., Detroit, Mich.

BAKER BROS., Inc. Toledo, Ohio
Makers of Better Machine Tools . . . Since 1867

If you write maker identify as IEN - 6799



DENISON HydrOILic PUMPING UNITS

For Circuit Pressures to 5000 psi

For highest efficiency on any hydraulic circuit need, pick one of the 37 different models of HydrOILic Pumping Units. These rugged, space-saving units feature HydrOILic Axial-Piston Pumps—proved in repeated tests to be exceptionally high in volumetric efficiency at operating pressures up to 5000 psi. Pumps are hydraulically balanced throughout. Designed with fewer parts, they assure longer service with less maintenance. Write for full details.

37 different types and sizes ● Operating pressures from 400 to 5000 psi ● Constant or variable volume types ● Volume control by handwheel, stem or pressure compensation ● Volume deliveries from 2 to 35 gpm ● Efficient axial piston pumps ● Reservoir capacities from 16 to 165 gallons ● Single-panel mounting of motor, pump, relief valve, gauges and controls ● Compact design simplifies circuit arrangement ● The large series pumping units meet J. I. C. standards.

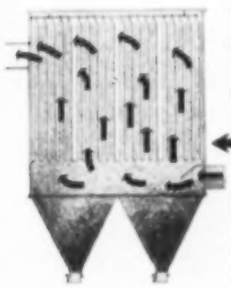
DENISON HydrOILics
The DENISON Engineering Co.
1150 Dublin Rd., Columbus 16, Ohio

If you write maker identify as IEN - 6800

IT'S NEW!

PANGBORN
Cloth Bag Collector
for high-efficiency, low-cost dust collection!

This new Pangborn "CM" Cloth Bag Dust Collector extends the high-efficiency collection characteristics of the cloth filter to applications previously considered too costly. The Pangborn "CM" Collector is well adapted for collecting carbon black, graphite, pigments, soap, food dusts, metal oxides, and other dusts of similar characteristics. For further information, write for Bulletin 914 to: PANGBORN CORP., 2500 Pangborn Blvd., Hagerstown, Md.



- Adaptable to wide variety of industrial dust problems due to new bag design
- Individual bags can be inspected, removed, and replaced without tools and without disturbing other bags
- Built for trouble-free service through simplified design and use of fewer parts

Here's how it works:
Dust-laden air enters from the piping system. Coarse materials precipitate directly to the hoppers below the bags. Air containing finer dust particles flows into the bags, where the dust is filtered on the inner surface of the bags. Cleaned air is then discharged from the collector.

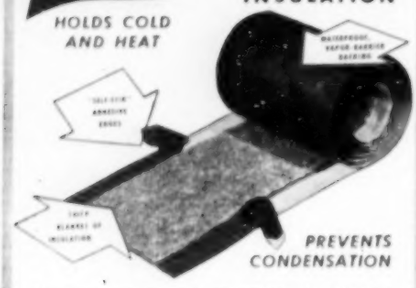
Look to Pangborn for the latest developments in Dust Control and Blast Cleaning equipment

Pangborn DUST CONTROL
STOPS THE DUST HOG from stealing profits

If you write maker identify as IEN-6802

MYSTIK Self-Stik DRI-PIPE INSULATION

HOLDS COLD AND HEAT



PREVENTS CONDENSATION

Goes on fast, saves time, cuts costs. Ideal for low-temperature applications—cold water lines, cold air ducts, refrigeration lines. Also used extensively for warm water lines, warm air ducts and for sound deadening.

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DOUBLE-V LEATHER LINK BELTING DOES NOT STRETCH

For serpentine drives and for use with idlers, G&K DOUBLE-V Leather Link Belting has outperformed belts of other materials. The leather segments are beveled on *both* sides to provide a DOUBLE-V which confirms to standard V-belt sheaves. The link construction does not stretch. The DOUBLE-V feature also prolongs the useful life of the belt, for on straight drives it can be turned over and becomes the equivalent of a new belt.

Get more production-power with G&K Leather V-Belting! Write today for fact-full bulletin — it's free.

G and K second century GRATON KNIGHT

GRATON & KNIGHT COMPANY, Worcester 4, Mass.

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ANGLE STEEL SHOP DESKS for Foremen-Clerks Checkers . . .

Angle Steel's well-known, heavy duty construction gives this Shop Desk the ruggedness, rigidity and stability to take the beating required of shop desks. Large top has ample working space, and smooth writing surface. Locking drawer for privacy. Pigeon hole shelves at back for forms, materials and working supplies.

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Desk is 34" wide, 30" deep, 44" high at front—54" high at back. Drawer is 31" wide, 27" deep, 3½" high. Olive green finish. Shipped knocked down.

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ANGLE STEEL, Inc.
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Please send FREE Literature — We're interested in: ... Shop Desks ... Benches, ... Cabinets, ... Steels, ... Tool Stands.

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NEW LITERATURE—Continued

PUMPS . . "Motorpump" centrifugal units, ¼ to 50 hp.; captioned cut-away views, examples of use in air-conditioning service to circulate water. Bulletin 7177, 12 pages. Ingersoll-Rand Co., 11 B'way, Dept. NR, New York 4, N. Y. **IEN-0679**

PUMPS . . Centrifugal sump pumps, wet and dry-pit types; details on eight sizes from 1½ to 8 in., capacity table on units to 2,000 gpm., heads to 120 feet. Bulletin WQ-220, 8 pages. Warren Steam Pump, 50 Warren, Warren, Mass. **IEN-0680**

RECORD KEEPING . . Pocket booklet of reasons for recording employee time, suggestions on payroll and job methods, company's recorder. "Simple Methods," 16 pages. Lathem Time Recorder Co., 72 Third St., N. W., Atlanta, Ga. **IEN-0681**

RECORD KEEPING . . "Kardlok" visible-record signals for the company's "Kardex" records; examples including production control. Bulletin KD-680, 8 pages. Remington Rand Inc., 315 Fourth Ave., Rm. 1618, New York 10, N. Y. **IEN-0682**

REFRACTORIES . . "Nojoint" rammed lining for foundry desulphurizing ladles; illustrated steps in constructing a ramming form, lining procedure. Bulletin 102, 8 pages. Ironton Fire Brick Co., Box 124-A, Ironton, Ohio **IEN-0683**

REFRIGERATING . . Large four-cylinder compressors for ammonia and Freon; two-page captioned sectional drawings, details on construction and components. Bulletin 651-B, 16 pages. Frick Co., 320 Broadway, Waynesboro, Pa. **IEN-0684**

REFRIGERATING . . Equipment for highway trucks and trailers employing "dry ice" and forced circulation; description, performance test results. "Cargo Cooler," 8 pages. Hunter Mfg. Co., 1548-52 E. 17th St., Cleveland 14, Ohio **IEN-0685**

REFRIGERATING . . Engine-driven radial compressor for Freon-12 or Freon-22, ratings to 56 ton; captioned assembly views, application notes. Bulletin 268-2, 8 pages. Ready-Power Co., 11229-33 Freud Ave., Detroit 14, Mich. **IEN-0686**

ROOFS . . Resurfacing material to trowel on dry or wet roof surfaces to stop leaks, also liquid resurfacer, other products; illustrated review, "Not a Drop . . ", 4 pages. Stonhard Co., 1304 Spring Garden, Philadelphia 23, Pa. **IEN-0687**

RUBBER PRODUCTS . . Molded bumpers, bushings, grommets; also extruded shapes, O-rings, cut parts; sizes, compounds, selection. Catalog MS-52, letterhead request, 60 pages. Lavelle Rubber Co., 422-26 N. Wood, Chicago 22, Ill. **IEN-0688**

SEPARATING . . "Aridifier" mechanical separator for air and gas lines; description of internal-rotor operation, selection charts, capacities. Catalog 252, 8 pages. Logan Engineering Co., 4905 W. Lawrence Ave., Chicago 30, Ill. **IEN-0689**

SHEARING . . Machines in open-throat and guillotine designs, 43 to 300 ton; picture review on a line, table of shearing capacities and ratings. Bulletin 901, 4 pages. Beatty Machine & Mfg. Co., Oak & 150th St., Hammond, Ind. **IEN-0690**

SIGNS . . "Men Working" and similar signs for highway and outdoor use; details on metal construction, other signs. "Safety on the Highway", 4 pages. Eastern Metal of Elmira Inc., 128-32 Harrison St., Elmira Heights 3, N. Y. **IEN-0691**

STAMPINGS . . Made on Multi-Slide machines in production runs minimum at 100,000 parts; information on facilities, examples of parts, specialties. "Multi-Stamping", 6 pages. Detroit Stamping Co., 342 Midland, Detroit 3, Mich. **IEN-0692**

STAMPINGS . . Equipment and facilities in the company's tool and production departments, notes on contract production service. "Equipment List", 4 pages. Kalamazoo Stamping & Die Co., 1813-17 Palmer, Kalamazoo, Mich. **IEN-0693**

STEEL . . West-Coast facilities for forged shapes, alloy and tool steels; pictures on shapes and sizes, notes on warehouse stock and locations. Bulletin G-5, 8 pages. Allegheny-Ludlum Steel, 2096-A Oliver Bldg., Pittsburgh 22, Pa. **IEN-0694**

STEEL . . Use of stainless steel for walls and roofs of industrial buildings; performance, cost figures, suggested specifications. Bulletin ADW-19014, 32 pages. U. S. Steel Corp., 523-27 Wm. Penn Pl. Bldg., Rm. 4284-A, Pitts. 30, Pa. **IEN-0695**

STORING . . Steel boxes for spare parts; construction features, list of 19 standard Navy-specification sizes, one with partitions. Data sheet, "Type M", 2 pages. Columbia Metal Box Co., 258-62 E. 143rd St., New York 51, N. Y. **IEN-0696**

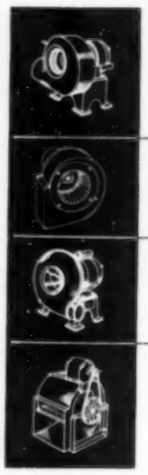
STORING . . Sectional prefabricated wood shelving; standard section sizes, assembly instructions, notes on strength, variations, characteristics. "Ever-Ready Shelving", 4 pages. National Corp., 289-93 Cleveland St., Orange, N. J. **IEN-0697**

STRAINERS . . For pipe lines from ¼ to 3 in.; sectional view, construction features, specification and list price table, suggested uses, pressure ratings. Bulletin 252, 4 pages. V. D. Anderson Co., 1931 W. 96th St., Cleveland 2, Ohio **IEN-0698**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6805

STANDARD ELECTRIC BLOWERS FOR ALL AIR MOVING JOBS



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heavy cast aluminum housing
For ventilation, cool blowers, dust removal and many other air moving jobs.

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Popular style volume blower, priced low. For ventilation, hot air boosting, etc.

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For hot air and ventilation. Designed so that blower can be used facing up, down, or horizontal without alterations.

they're priced low!

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Rotor's 15 New "Multi-power" Chippers are easier to handle . . . do jobs faster

The unique hollow piston and "doughnut" valve of the 15 new Rotor "Multi-power" Chipping Hammers provide the 1-2 punch to cut your chipping costs.

Lighter Weight. These new Rotor Chippers average 1½ to 2 lbs. lighter than other chippers making them easier to handle.

Shorter. Exclusive "doughnut" valve makes possible saving of 1" to 2" in length, making it easier to get into those tough, crowded corners.

Faster Cutting. You get more blows per minute . . . because of new exclusive design.

3 Models in 1. By a simple change of parts you can adapt each of the 5 basic models to serve as 3 hammers to match your job: (1) A "regular" model, (2) A "super-speed" model, (3) A "super-sock" model.

This is the biggest advancement in chipping hammers in the past 15 years. Find out all about it! Write for catalogue No. 37.

AIR O'TOOL

THE ROTOR TOOL CO.
CLEVELAND, OHIO
UNBIASED ANALYSIS OF PORTABLE TOOL PROBLEMS

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TRY THIS SURE CURE

Efficient, Easy-to-handle

SPEEDWAYS CONVEYORS

Economical SPEEDWAYS conveyors can cut your handling costs and speed up production. Their flexibility permits quick, easy movement from one location to another or permanent installation. Your nearest SPEEDWAYS distributor is ready to advise you—no obligation. Write us for his name.

There is a SPEEDWAYS CONVEYOR to suit your handling needs

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SPEEDWAYS Conveyors, Inc.
1244 Niagara St., Buffalo 13, N. Y.
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Left—Union Special Style 20100 H Bag Closing Machine

Here's how to close **MULTIWALL PAPER BAGS**

FOR lower production costs ...stronger, neater closures ...ability to get out rush orders in a hurry, you can't beat Union Special Bag Closing Machines! Specially built to stand up under heavy production schedules, these machines provide the high output rates needed to meet modern competitive conditions.

In the Union Special line, it's easy to find the right unit to meet your particular requirements. ASK FOR RECOMMENDATIONS.

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Get your copy of this 16 page illustrated bulletin containing helpful data and charts on the complete Union Special line of bag closing machines. UNION SPECIAL MACHINE CO., 410 North Franklin Street, Chicago 10, Illinois

UNION SPECIAL

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Your *production methods* may be at the peak of efficiency . . . but how about your *cleaning methods?* Out of date floor cleaning equipment can affect your profit picture just as much as labor, material and taxes.

Tornado cleaning equipment is engineered to fulfill the needs of modern commercial and industrial cleaning. Just think of a vacuum cleaner that pulls air at velocities over 300 M.P.H.—picks up water, oil, scrubbing solutions, metal chips or dirt in a single stroke—plus an adaptability to clean machinery and overhead fixtures as well as all type floors.

Protect your profits with America's most modern floor cleaning equipment—Write for Tornado Bulletin 607 today.

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A shoulder-type vacuum cleaner for hard-to-reach spots.

A portable blower for cleaning motors and machinery.

A blower-sweeper for cleaning aisles and under seats and equipment.

A conventional tank cleaner for wet or dry pickup.

BREUER ELECTRIC MFG. CO.

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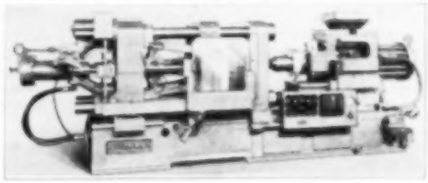
PLASTIC MOLDING . . Injection machine rates 16 oz. of acetate thermoplastic

Source: REED-PRENTICE CORP. 675-79 Cambridge St., Worcester 4, Mass.



Details in Bulletin 400T-16

Material feed to this new Type 400T-16 hydraulic machine is from a hopper to an electrically-heated plasticizing chamber and cylinder equipped with a 3¾-in. injector plunger. Pressure on the material for the injection operation is 23,000 lb. per sq. in. through a 13-in. stroke at 100 ipm. The machine will mold 22 cu. in. of material per shot and can be operated at 180 shots per hour under favorable conditions. Plasticizing capacity is 110 lb. per hour.

Control centers at a timing panel which also mounts push buttons for mold and heating-cylinder adjustment. Normally operating cycle is automatic with timer-controlled delay intervals but manual operation can be established at the panel.

Operating power is supplied by a hydraulic pump and 30-hp. motor assembled at the rear of the machine. Overall dimensions are about 21 by 6 by 7 feet. The mold plates measure 35 by 40 in. and open through a 16-in. stroke. Die height is minimum at 7 in., maximum at 24 inches. Space between the tie bars measures 20½ by 25½ inches. Rated casting area in the mold is 200 square inches. Closing pressure is 400 ton. Opening pressure is 22 ton.

If you write maker identify as IEN-6812

COUNTING . . Electronic scaler for use in counting radioactivity

Source: NUCLEAR MEASUREMENTS CORP. 2448-52 N. Arlington St., Indianapolis 44, Ind.

List is $550

Model DS-1 is a new basic G-M tube scaler with space and connections provided for either a built-in or a remote amplifier-discriminator for proportional or scintillation counting. The assembly includes three identical plug-in decade units, a six-digit number register to provide for totalizing at counts to 10^7 at a rate of 10^6 counts per minute.

A built-in timer provides for intervals to 55 minutes. Input connections are on both the panel and the rear of the chassis. A power supply rating 500 to 1,500 volts or 650 to 2,500 volts is provided in which both the low and high-voltage transformers are hermetically sealed. Connection also is provided for coincidental elapsed-time indication. Resolving time is 2 microseconds. Input sensitivity is 0.25 volts. Operation is on 110-volt 60-cycle ac.

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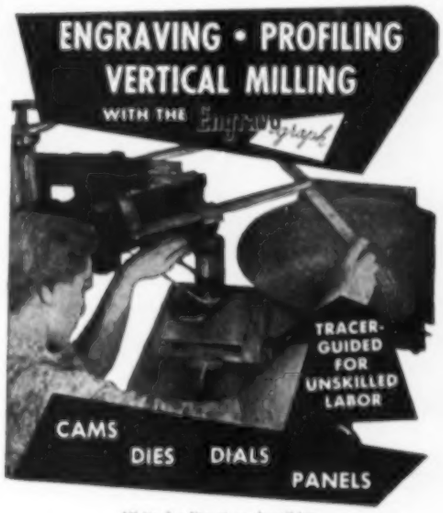
If you write maker identify as IEN-6813

If you write maker identify as IEN-6814



Write for literature describing:
1. Heavy Duty Engravograph (illustrated) Catalog H-23
2. Portable Engravograph—Catalog IM-23

NEW HERMES, Inc. 13-19 University Place NEW YORK 3, N. Y.

CANADA: 359 St. James St., Montreal

World's Largest Manufacturer of Portable Engraving Machines

If you write maker identify as IEN-6815

Wherever nuts, bolts or studs are to be applied or removed, a reversible CP AIR IMPACT WRENCH will do the work with maximum speed and ease — with no twisting thrust to fatigue operator. The complete CP line — seven wrenches from $\frac{1}{4}$" to $1\frac{1}{4}$" bolt size — has angle head models in all sizes. Side, pistol grip or straight handles; trigger or lever-type throttles.

Write for Bulletin 812

CHICAGO PNEUMATIC TOOL COMPANY

General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

If you write maker identify as IEN-6816

TRAFFIC NEVER STOPS

***when you repair your floors with* PERMAMIX**

Easy to apply—sets instantly—long wearing for year around use indoors or out—WILL NOT FREEZE—can be stored indefinitely and used in any temperature—lowers maintenance costs amazingly.

Here's all you do: Clean hole in any type floor, spread primer supplied in drum, fill in with PERMAMIX, tamp and dust with cement or floor dust, resume traffic immediately. It's that easy, for PERMAMIX feather edges and no cutting or chipping is required. No skilled labor is necessary, you need no special equipment, you have no mixing, waiting or production delays when you repair or patch your floors the easy, fast PERMAMIX way. Comes in handy, durable 50 lb. net weight drums.

Write or Call for full details

PERMAMIX

PERMAMIX CORPORATION

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WISSCO BELTS

assure trouble-free production schedules

Present-day demands for maximum production call for equipment that can be counted on to stand up and deliver dependable, uninterrupted service—particularly where punishing conditions are encountered.

Wissco Metal Processing Belts are specially engineered in various metals and alloys for long-lasting resistance to abrasion, corrosion and temperature extremes.

For additional information write or phone our nearest sales office.

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WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
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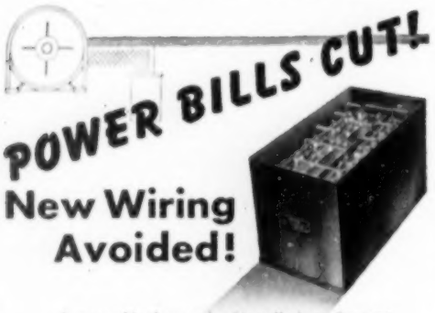

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New Wiring Avoided!

As proved in thousands of installations, Sprague Power Factor Capacitors installed *right at each piece of inductive electrical equipment* insure maximum power cost savings, guarantee maximum cost-saving flexibility for future moves and expansion. Power factor on each piece of equipment is corrected *to the maximum*. Changes or additions can be made as *they are required*. New wiring, new switch gear, new transformers can be avoided. *Existing electrical circuits can handle bigger loads.*

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SPRAGUE ELECTRIC COMPANY, North Adams, Mass.

SPRAGUE POWER FACTOR CAPACITORS

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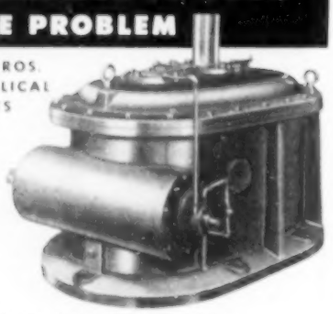
AN ANSWER TO YOUR DRIVE PROBLEM

FOOTE BROS. WORM HELICAL DRIVES



Rugged strength, the ability to stand up under punishing loads characterize this drive.

Input shafts are horizontal, output shafts vertical, up or down — making these units ideal for use wherever materials must be agitated or mixed.

Available in ratios from approximately 25 up to 285 to 1 — capacities up to 128 h. p.

Write for Bulletin WHA

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Better Power Transmission Through Better Gears

NEW LITERATURE — Continued

STRIPPING . . Material to use with alkaline strippers for production paint removal of hooks, hangers, reject parts; proportions, properties, uses. "Strip-Aid", 4 pages. Klem Chemicals Inc., 14403 Lansen St., Dearborn, Mich. **IEN-0699**

SWITCHES . . Type-A safety switch to 250 and 575 volts; data on simplified line of 37 units, operating details, ratings. Bulletin 514, 4 pages. Bull Dog Electric Products Co., 7908-12 Jos. Campau Ave., Detroit 32, Mich. **IEN-0700**

TESTING . . Transparent cast plastic for photoelastic stress studies; instructions for model preparation, theory of making a frozen pattern. "Resin 61-863", 4 pages. Catalin Corp., 1 Park Ave., Rm. 601, New York 16, N. Y. **IEN-0701**

TRANSFORMERS . . "Powerstat" Type-10 variable transformer with 165-volt-ampere rating, zero to 132 volts on 120-volt input; description, dimensions. Bulletin P-252, 4 pages. Superior Electric, 351 Demers Ave., Bristol, Conn. **IEN-0702**

TRAPS . . Steam traps in ¼ to 2-in. sizes, pressures to 300 lb.; catalog data and list prices, selection, recommended pipe connections. Bulletin 152, 12 pages. W. H. Nicholson & Co., 10-14 Oregon St., Wilkes-Barre, Pa. **IEN-0703**

TRUCKS . . Series-FT fork lift trucks, gasoline or diesel, 3,000 and 4,000 lb.; detail specifications, turn diagrams, operating data. Bulletins 1579, 1580, 1581, 4 pages each. Buda Co., 15401 S. Commercial St., Harvey, Ill. **IEN-0704**

TRUCKS . . "Moto-Bug" engine-driven truck; description, pictures to show application as power wheelbarrow, 1,500-lb. platform and 1,000-lb. lift truck. Bulletin KM-328, 4 pages. Kwik-Mix, 40 Koehring St., Port Washington, Wis. **IEN-0705**

TRUCKS . . Captioned pictures to show application of power trucks, tractors and hoists in material handling, grouped by industry. "Photo-File", 22 sheets. Yale & Towne Mfg. Co., 11002 Roosevelt Blvd., Philadelphia 15, Pa. **IEN-0706**

TUBES . . "Acipco" centrifugally-cast steel tube, 2 to 50 in. o.d., ¼ to 4-in. wall; properties, test data, drawings on use as rolls, cylinders. "Memorandum 11", 17 sheets. Peter A. Frasse & Co., 15-19 Grand St., New York 13, N. Y. **IEN-0707**

VALVES . . Gate, globe and check valves in iron construction, sizes ¼ to 24 in.; data summaries by type and service, pressure ratings. Bulletin V-405, 4 pages. Fairbanks Co., 395 Lafayette St., New York 3, N. Y. **IEN-0708**

VALVES . . Solenoid units for water or air, also flow-regulating units, flow interlock, strainer; sectional views, operating descriptions. Bulletin 200, "Flow Controls", 8 pages. Hays Mfg. Co., 803 W. 12th St., Erie, Pa. **IEN-0709**

VALVES . . How-it-works description for two-stage and single-stage compressed-gas regulating valves; construction points, selection. Booklet CW-352, 44 pages. National Welding Equipment, 216-20 Fremont, San Francisco 5, Calif. **IEN-0710**

VALVES . . "Nordstrom" corrosion-resistant lubricated-plug valves, ½ to 34 in.; operating principle, metal and lubricant tables, list prices. Bulletin V-217, 36 pages. Rockwell Mfg. Co., 402 N. Lexington, Pittsburgh 8, Pa. **IEN-0711**

VALVES . . Non-scald mixing valve for showers; illustrated models, accessories, also standard mixing valve, temperature-control valve. "Safetymix", 12 pages. Symmons Engineering Co., 789-93 Tremont St., Boston 18, Mass. **IEN-0712**

VENTILATING . . "Kno-Draft" adjustable air diffusers; types, specifications, adjustment, selection data and charts, balancing procedure. Bulletin K-20-A, 36 pages. W. B. Connor Eng. Corp., 2002 Shelter Rock Lane, Danbury, Conn. **IEN-0713**

WELDING . . Atomic-hydrogen arc welding equipment; machine specifications, application characteristics, notes on the torch and hydrogen sources. Leaflet GEC-598-A, 2 pages. General Electric Co., Dept. 6X-201, Schenectady 5, N. Y. **IEN-0714**

WELDING . . Three-phase resistance machines for aluminum, magnesium, nickel, steel; specifications and welding range to 150 kva. Bulletin RTP-51, 4 pages. Resistance Welder Corp., 120-24 First St., Bay City, Mich. **IEN-0715**

WELDING . . Electrodes, tips and holders for resistance machines; drawings, dimensions, list prices on symmetrical and irregular units, alloys. Catalog 14,650-3, 32 pages. Welger Weed & Co., 11642-46 Cloverdale, Detroit 4, Mich. **IEN-0716**

WINDING . . Machines to wind plastic sheet and film; sequence pictures, examples of typical machines, drawings to show flow of calendered film. Bulletin 11-DM, 4 pages. Dilts Machine Works, 44-48 N. First St., Fulton, N. Y. **IEN-0717**

WIRE PARTS . . From .0015 to .080 in. in diameter, also small swivels, stampings; picture examples including heading, upsetting, pointing, threading. Letterhead, 4 pages. Art Wire & Stamping, 225-29 High St., Newark 2, N. J. **IEN-0718**

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MARVEL No. 8, Capacity 18" x 18"

There is no other sawing machine like it. The work remains stationary. The blade is guided with a 90° twist and power fed vertically through the work. The saw blade and column can be instantly swung and clamped at any angle to 45° either right or left from vertical for miter cutting.

The number 8 MARVEL saw will handle the smallest, as well as the largest work up to 18" x 18". It will cut-off, trim, miter, notch, and split all bar stock, pipe, structural sections, moulding, tubing, or irregular shapes.

Write for our catalog, containing valuable information, enabling you to select a metal saw best suited to your work.

Metal Cutting MARVEL SAWS
Better Machines-Better Blades

ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U.S.A.

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SHERARDUCT RIGID STEEL CONDUIT is better

Write for our catalog. National Electric Products Corp.
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EVERYTHING IN WIRING POINTS TO

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Sticky, Gummy Materials *CAN* be pumped!

ADHESIVES
PUTTIES
SEALERS
HEAVY COATINGS

YOU CAN handle an amazing variety of heavy industrial fluids and semi-solids with Graco Powerflo Pumps! Air operated, they work in any location, pumping out of pails or 400 lb. original drums. Hoses, flow guns, spray guns, nozzles available. Tell us what your heavy material is, and we'll tell you frankly what savings Powerflo can make. We have some interesting case histories. Write now for free Powerflo catalog.

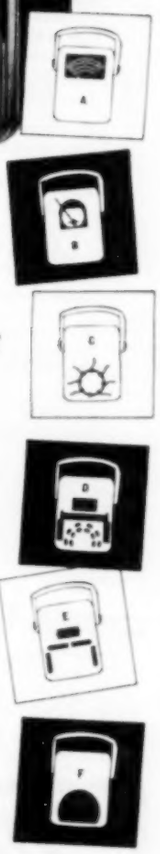
GRAY COMPANY, INC.
62 Gross Square
Minneapolis 13, Minnesota

GRACO
Powerflo pumps

Regional Offices: New York, Philadelphia, Detroit, Chicago, Atlanta, San Francisco

If you write maker identify as IEN - 6824

The Simpson Model 260 Volt-Ohm-Milliammeter Outsells All Others Combined Because



- A covers all ranges necessary for Radio and TV set testing
- B includes the Simpson 50 Microampere Meter Movement known the world over for its ruggedness
- C no bulky harness wiring, thus eliminating all intercircuit leakage at this high sensitivity
- D molded recesses for resistors, batteries, etc.
- E easy battery replacement
- F covered resistors to prevent shorts and protect against dust and moisture

● All components—including case and panels—are specially designed and completely tested for maximum utility . . . not merely assembled from stock parts

SIMPSON ELECTRIC COMPANY
5200 W. Kinzie St., Chicago 44, Illinois - Phone: COlumbus 1-1221
In Canada: Bach-Simpson, Ltd., London, Ont.

If you write maker identify as IEN - 6826

PUMP . . Diffusion design to evacuate small volume containers

Source: DISTILLATION PRODUCTS INDUSTRIES
761 Ridge Road West, Rochester 3, N. Y.

For production use

Model MB-10 designates a new pump, valve and port assembly in the company's line of diffusion pumps. It supplements the operation of a mechanical vacuum pump for evacuation of small-volume containers such as hermetically-sealed relays, vials, instrument-control elements, vacuum condensers, electron tubes. Operation is at pumping speed of 10 liters per second between 0.1 and 10.0 microns of mercury. Ultimate vacuum is 5×10^{-5} mm. of mercury.

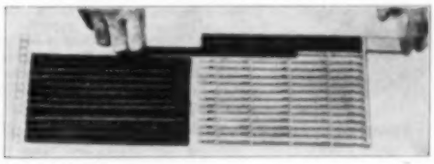
The jet assembly in the pump can be taken apart for cleaning and replacement. A mechanically-operated valve controls the evacuation cycle through the tube-loading and pumping stations. Application can be made on any of the commercial rotary exhaust machines. Forepressure tolerance of 500 microns eliminates need for major conversion changes.

Overall dimensions of the pump, valve and port assembly are 8½ in. in height, 4¾ in. in length, 3¾ in. in width. The company's special booster fluid is employed. Required quantity is 15 cc. Heater power is 90 135 watts. Water cooling calls for 0.03 gpm. High-vacuum connection measures 1⅛ in. in outside diameter. The forepressure connection is ½ inch.

If you write maker identify as IEN - 6827

BATTERY . . Assembles positive plates that will retain the active material

Source: ELECTRIC STORAGE BATTERY CO.
P. O. Box 8109-A, Philadelphia 1, Pa.



For general heavy duty service

Positive plate grid in new design of the company's industrial storage battery employs Silvium to minimize corrosive action. The Silvium is an alloy of silver, lead and other components. The grid is made up of metal core rods that are inserted in slotted hard-rubber tubes. Active material is packed into the tubes surrounding them.

Slots in the tubes permit free access of the electrolyte to the active material but these slots are fine enough to prevent the material from washing out. The bottoms of the tubes are sealed with polyethylene plugs cast into a single integral bar unit. This unit presents a plug for each tube and extends across the bottom of the plate where it acts as a safeguard against shorting between plates. The new battery construction also includes a homogeneous sealing compound, a seamless shock-proof case, unbreakable plastic vent plugs and a corrosion and impact-resistant coating.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 88

If you write maker identify as IEN - 6828

USE HOUGHTON
Cosmolube
*THE MULTI-PURPOSE GREASE THAT PUMPS EASILY AT

20° Below!

MEETS THE NEEDS OF EVERY INDUSTRY FOR
HOT SPOTS—**COLD** SPOTS—**WET** SPOTS

- ★ High melting point
- ★ Won't dissolve
- ★ Resists oxidation
- ★ Adhesive to metal
- ★ Won't separate
- ★ Only one grease to buy and apply

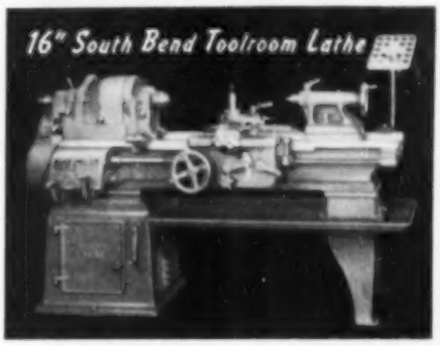
GET LATEST BULLETIN on this heavy-duty grease that simplifies your inventory . . . Write to E. F. Houghton & Co., 303 W. Lehigh Avenue, Philadelphia 33, Pa.

COSMOLUBE
. . . a product of
E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

If you write maker identify as IEN - 6829

FIRST CHOICE



Versatile . . . highly accurate . . . easy to operate, this quality-built toolroom lathe is first choice among toolmakers because it makes their most difficult, close-tolerance jobs easier. Designed for hard industrial use, it will continue to turn out, year after year, the kind of precision work modern machining practice calls for. Write for catalog on the 16" Toolroom Lathe today.

SOUTH BEND LATHE
SOUTH BEND 22, IND. • *Building Better Tools Since 1906*

If you write maker identify as IEN - 6830

A case history based on the experience of the Hyster Company, Portland, Oregon

Intermediates that last like photographs
produced at low cost

By reproducing its engineering drawings on Kodagraph Autopositive Paper, Hyster gets intermediates which have dense black photographic lines on a translucent, durable paper base. *Intermediates* which will remain intact . . . and produce sharp, legible blueprints and direct-process prints whenever needed.

And the cost is surprisingly low because Autopositive boasts unique photographic properties. It can be handled in room light . . . and it produces positive copies *directly*—without a negative step. Also, it can be exposed in any blueprint or direct-process machine . . . and processed in standard photographic solutions. Hyster uses a blueprint machine which has also been designed to produce Autopositive intermediates in a continuous flow.

How The Hyster Company Uses Autopositive

For All Print Production. Autopositive intermediates are used instead of valuable and perishable original drawings . . . greatly reducing the possibility of reading errors in the shop.

For "Permanent" Files in its home office . . . and branches in the U. S. and abroad. With Autopositive intermediates there are no costly delays due to intermediates fading, turning yellow, or becoming brittle.

For Drafting Room Short Cuts. Autopositive Paper saves drafting time by reclaiming old drawings . . . and duplicating standard designs which will be included in new drawings.

Kodagraph Autopositive Paper
"The Big New Plus" in engineering drawing reproduction

Learn all the ways you can use Kodagraph Autopositive Paper, which you, or your local blueprinter, can process *quickly . . . economically . . . at low cost.*

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

If you write maker identify as IEN-6832

STURTEVANT
DUSTLESS BLENDERS
Thoroughly Blend Substances into an Inseparable Mass

The 4-Way Mixing Action of the Sturtevant Dustless Blenders thoroughly mixes two or more substances into an inseparable whole . . . every part of which is the same analysis. Single receiving and discharging opening insures tight sealing during mixing process. "Open-door" accessibility permits thorough cleaning. The fast, accurate mixing operation increases output . . . cuts mixing costs. Mixing capacities from ¼ ton to 75 tons per hour. Write . . .

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If you write maker identify as IEN-6833

Drill Hardened Steels without Annealing—

USE The New IMPROVED "HARDSTEEL" DRILL

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

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Also makers of—BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS
Write for information

If you write maker identify as IEN-6834

WHAT DO YOU KNOW
About Speed Control For Profit?

1. Do you know the exact speeds at which your machines should operate to give you maximum profit?

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Gentlemen:
Quick! Rush me your complete bulletin on The AMERICAN Adjustable-Speed Line.
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NEW LITERATURE—Concluded

ADHESIVES . . "Araldite" ethoxyline-plastic materials: types, properties, examples of use; also notes on casting and coating resins. "Triple-Function Resins", 4 pages. Ciba Co., Box 25-A, Village Station, New York 14, N. Y. **IEN-0719**

BOILERS . . Steam generators from 20 to 600 hp. with pressures to 250 lb.; construction and operation, size and rating chart. Bulletin 2000, 28 pages. Preferred Utilities Mfg. Co., 1860 Broadway, Rm. 800, New York 23, N. Y. **IEN-0720**

CARS . . "Meco" transfer units for product or material handling: general description, details on battery, trolley, engine-drive designs. Bulletin 5, 4 pages. Manufacturers Equipment Co., 208 Madeira Ave., Dayton 4, Ohio **IEN-0721**

CASTINGS . . In Meehanite Metal for pump bodies and parts; examples of resistance to wear, impact, erosion, pressure, corrosion. Bulletin 36, 20 pages. Meehanite Metal Corp., 802 Pershing Square Bldg., New Rochelle, N. Y. **IEN-0722**

CHUCKS . . Adjustable-diameter arbor to hold work for inspection or machining; operating principle, actuating methods, application. "Diaphragm Arbors," 8 pages. N. A. Woodworth Co., 1392 E. Nine-Mile Road, Detroit 20, Mich. **IEN-0723**

CONVEYING . . Cold-curing rubber compound to repair or resurface a conveyor belt in place; instructions, user reports. Folder, "Magic-Vule", 12 pages. Magic Chemical Co., Dept. N-74, 119-23 Crescent St., Brockton 2, Mass. **IEN-0724**

CORROSION PROOFING . . Neoprene-base materials to brush, dip, spray on equipment or use as lining; data summaries, application notes. Folders N-1, N-2, N-3, 4 pages each. Gates Eng. Co., Box 1711-A, Wilmington 99, Del. **IEN-0725**

DRIVES . . Double-reduction worm-gear speed reducers; selection instructions, calculations, hp. and torque ratings, dimensional data. Bulletin G-WWH, 48 pages. De Laval Steam Turbine Co., 851-55 Nottingham, Trenton 2, N. J. **IEN-0726**

ELECTRONIC PRODUCTS . . Contract facilities to design and produce them; plants and products, suggested products, data on key personnel. "Facilities Report", 16 pages. Sarkes Tarzian Inc., 413-17 N. College, Bloomington, Ind. **IEN-0727**

FEEDING . . Scale-mounted hopper to feed dry materials by weight; components, operating description, feed range on two machines, accessories. Bulletin 30-H-12, 4 pages. Omega Machine Co., 343-7 Harris Ave., Providence 1, R. I. **IEN-0728**

GRINDING . . Wheel dressers for angles, radii, complex forms; details on models, examples of forms that can be dressed, instructions, accessories. "Fluidmotion", 8 pages. J & S Tool Co., 475-79 Main St., East Orange, N. J. **IEN-0729**

ISOLATING . . Shock mounts for military equipment, also mounting bases for airborne equipment, vibration isolators; standard types and dimensions. Catalog MB-110, 4 pages. T. R. Finn & Co., 331-5 Jackson Ave., New York 54, N. Y. **IEN-0730**

LOCOMOTIVES . . Baldwin-Westinghouse diesel-electric units; data summaries on types from switching locomotives to those for road freight. Bulletin 339, 12 pages. Baldwin-Lima-Hamilton, Paschall P. O., Philadelphia 42, Pa. **IEN-0731**

PACKAGING . . Automatic machines for cartoning, product wrapping, special packaging; picture examples, notes on functions, type of package. Catalog, 36 pages. F. B. Redington Co., 110-14-AK S. Sangamon St., Chicago 7, Ill. **IEN-0732**

SEPARATING . . Automatic machine to remove metallic sludge and abrasives from coolant; sectional view, description, data on 11 sizes to 350 gpm. "Coolant Separator", 12 pages. Barnes Drill Co., 856 Chestnut, Rockford, Ill. **IEN-0733**

TRANSFORMERS . . For mercury-vapor lamps; specifications and dimensions on indoor and outdoor types, data on the lamps with reasons for their use. Bulletin 521-5, 16 pages. Jefferson Electric Co., 825-25th Ave., Bellwood, Ill. **IEN-0734**

TUBES . . "Rockrite" cold-sized steel tube to 5½ in. od.; description on rocking-die sizing method, properties and tolerances, applications as power cylinders. Bulletin R-7, 4 pages. Tube Reducing Corp., 50 Main, Wallington, N. J. **IEN-0735**

VENTILATING . . "Flexaust" spiral-reinforced duct for ventilation, dust collection; description, accessories, application examples. Bulletin 34, 4 pages. American Ventilating Hose, 100 Park Ave., Rm. 3415, New York 17, N. Y. **IEN-0736**

VISES . . Universally-adjustable machine vise, 3½ and 5-in. opening; detail description, sketches to show application and adjustment. "3-Way Vises", 6 pages. Universal Vise & Tool Co., 452 Frank St., Parma, Mich. **IEN-0737**

WATER TREATING . . Ion-exchange equipment to produce "conductivity water" of less than .5 ppm. electrolytes; operation. "Mixed Bed Demineralizer," 4 pages. Permutit Co., 330 W. 42nd St., Rm. 700, New York 18, N. Y. **IEN-0738**

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If you write maker identify as IEN-6835

Now, Air-Cooled Power For Industry!

Lycoming precision production offers versatile air-cooled power—in a 100- to 400-h.p. range—for numerous industrial purposes.

Long famous in aircraft, Lycoming air-cooled power now offers its advantages to *all* American industry. Compact, light in weight, dependable under any conditions, these remarkably efficient power plants can help solve your power problems.

If you can use such power, or whether your need is precision machining, product development, or high-volume production—look to Lycoming!

AIR COOLED ENGINES FOR AIRCRAFT AND INDUSTRIAL USES, PRECISION AND VOLUME MACHINE PARTS, STEEL PLATE FABRICATION, GRAY IRON CASTINGS

LOOK TO LYCOMING FOR RESEARCH, FOR PRECISION PRODUCTION.
Lycoming-Spencer Division, Bridgeport Lycoming Division, AVCO, Williamsport, Pa., Stratford, Conn.

If you write maker identify as IEN-6836

"Standardized on NORGREN for Years...Extremely Satisfactory"

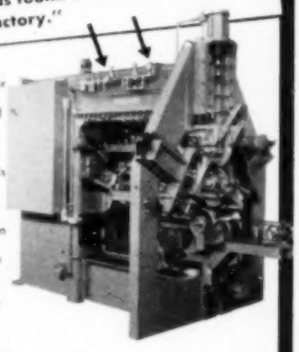
PLANT REPORT

NATIONAL ELECTRIC WELDING MACHINES CO.

Problem: To find standard lubricating, air pressure regulating, and air line filtering equipment which would be readily available in sizes and types for easy make up into various assemblies for a wide range of specially designed production-line resistance welders.

Solution: Use of Norgren Lubricators, Regulators, and Filters.

RESULT: "National Electric Welding Machines Company has standardized on Norgren air accessories for years and has found them to be extremely satisfactory."



This special 200 KVA Seam Welder automatically roll-forms, sizes, feeds and mash-seam-welds metal containers from 15" to 25" dia. and 10" to 30" long. This is a typical National Electric Welding Machine Company product, using Norgren lubricators, air line filters and air pressure regulators. Primary air pressure ranges from 80 to 100 psi; secondary from 60 to 80 psi.

C. A. NORGREN CO.
2432 So. Elati—Englewood, Colorado
Gentlemen: Please send me your free Norgren Blueprint No. 115, giving complete data on above lubrication system.
Name
Address
Company

Norgren
2432 S. ELATI ST., ENGLEWOOD, Suburb of Denver
IN COLORFUL COLORADO

If you write maker identify as IEN - 6838

...Let's face it!

To set up a job on a production machine may take as much time as the actual production operation itself. Using an 18" wheel driven through an extra-heavy motorized spindle (15 H.P.), the Abrasive 18" Face Grinder gives you fast finishing of castings, dies, and other flat surfaces . . . eliminates set-up and production time on millers or planers . . . avoids costly transfer of stock from one machine to another.

Abrasive 18" Face Grinder is a rugged machine, designed for simplicity and ease of handling. Send for complete information and Circular F. ABRASIVE MACHINE TOOL COMPANY, 18 Dunellen Road, East Providence 14, Rhode Island.

ABRASIVE ACCURACY BOOSTS PRODUCTION

Abrasive Quality is Reflected in the Finish of Your Product

If you write maker identify as IEN - 6839

BUDA HYDRAULIC "TWO-SPEED" JACKS

✓ SIMPLE ✓ SAFE ✓ DEPENDABLE

Precision control in raising or lowering any load—two lifting speeds—rugged design—simple hydraulic operation are features of BUDA Hydraulic Lifting Jacks. Write for Bulletin and complete details on Buda Lifting Jacks.

The Buda Company, Harvey, Illinois

If you write maker identify as IEN - 6840

FROM ANY ANGLE...

...THEY ARE THE *BEST!*

● Albion Industrial Casters are better-built to better serve you. Engineered to save you dollars and man hours by moving greater loads faster, safer, smoother . . . and to do it economically!

Albion casters are readily available in any size, style, capacity and wheel type. Make Albion your *one dependable* source for all industrial casters and wheels.

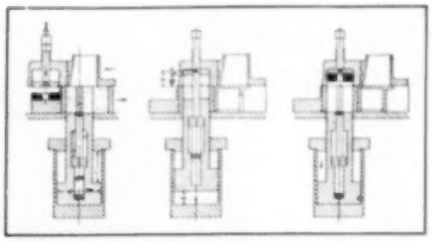
Represented in Canada by C. J. McDONALD 365 Yonge St., Toronto

ALBION INDUSTRIES, INC. ALBION • MICHIGAN

If you write maker identify as IEN - 6841

PLASTIC MOLDING . . Hydraulic press and feeder preform bulky materials

Source: BALDWIN-LIMA-HAMILTON CORP. Paschall Post Office, Philadelphia 42, Pa.



Seven steps in automatic cycle

Bulky materials of the rag or canvas-filled type are fed in measured amount from a hopper to a collector chamber on this new Model-60 Baldwin-Defiance press. Hydraulically-operated collector pistons move in from the rear and sides to partially compact the material and position it above the main ram of the press. The ram then moves upward to compact the material into the finished preform in the cylinder that stands in line above it.

After a predetermined time the ram retracts and the cylinder or die holder moves to the left to be positioned under an ejector which strips it for removal while the collector moves to the right to accept a new charge of loose material. The operations are controlled electrically to perform an automatic sequence of operations at 6 to 10 strokes per minute depending upon the dwell interval. A core rod can be employed to produce a preform with a center hole if this is desired. The core rod assembly is shown in the illustration.

Preform diameter is maximum at 4 in. with core-rod diameter at 2 inches. Capacity of the main ram is 40 ton. Overall dimensions, including the pumping equipment and the feeding equipment, are 120 by 80 by 90 inches. Power is supplied by two Vickers vane-type pumps mounted on a 15-hp. ball-bearing double-end motor. Control centers at a push-button panel at the operator's position.

If you write maker identify as IEN - 6842

FASTENING . . Paper wound twine for package tying, 10 and 50-lb. balls

Source: PLYMOUTH CORDAGE CO. 51 Court St., Plymouth, Mass.

M-Cord trade names a new twine in the company's Plym-Kraft line of twisted paper products. It consists of a strong hard-fiber manila core wrapped with tough smooth paper. It is supplied in 10 and 50-lb. balls packaged in the company's patented paper container to prevent the ball from collapsing in use and to permit the twine to feed freely until it has been used up. Eleven sizes or weights range in strength from 145 to 700 pounds. From 100 to 500 ft. make up a pound.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6843

NEW! CHICAGO HARDWARE FOUNDRY "313" TABLE!

Lifetime CAST IRON CONSTRUCTION

. . . Colorful Porcelain Enamel Finishes

You'll like the colorful, attractive appearance of this new "CHF" table . . . and the fact it's built to give a life-time of service! Cast iron channel legs and center stringer give necessary strength without bulky bases. Easier, quicker to clean around with more chair and knee room. Available in sizes to seat 4 to 20 people. Your choice of lifetime porcelain enamel colors and standard tops. Portable — or can be secured to floor for use with permanently attached counter stools.

Write for Complete Information and Prices Today!

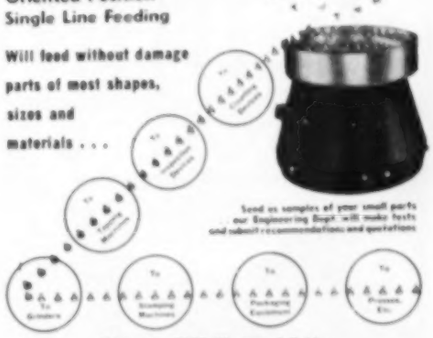
CHF THE CHICAGO HARDWARE FOUNDRY CO. "Dependable Since 1897" 3482 Commonwealth Ave. • North Chicago, Ill.

If you write maker identify as IEN - 6844

SYNTRON Parts Feeders

Provide
Automatic
Oriented Position
Single Line Feeding

Will feed without damage parts of most shapes, sizes and materials . . .



Send us samples of your small parts our Engineering Dept. will make tests and submit recommendations and quotations

Write for FREE Illustrated Folder

SYNTRON CO. 410 Lexington Ave. Homer City, Pa.

If you write maker identify as IEN - 6845

Improved Method Centrifugal SPRAY DRYER and CONCENTRATOR*

CONTRACT DRYING

We invite inquiries for Contract Drying in our fully equipped, Stainless Steel Plant in Chicago. Shipments can be made direct to our Railroad Switch Track or Truck Docks.

THE DRYING AND CONCENTRATING COMPANY DRYER

Improved method for DEHYDRATING

Solutions, emulsions and materials which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soups, Vegetables, etc.

This complete spray drying plant employs a unique centrifugal-type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cooler and Sanitary Pumps with variable speed drives for handling the liquid material and controlling the moisture.

*CONCENTRATOR AVAILABLE SEPARATELY

The Concentrator can be operated as a separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining neutral flavors and vitamins.

DRYING and CONCENTRATING CO. 332 SOUTH MICHIGAN AVENUE CHICAGO, ILLINOIS

If you write maker identify as IEN - 6846

ONE TOOL did all this

—Bored and bottomed the large blind hole, then faced the stepped surfaces.

ALL WITH ONE BOKUM BOTTOMING AND FACING TOOL (STYLE B)

Helical back off insures constant clearance and extremely long life of tool, since sharpening is done by grinding face only. Why use TWO tools when the job can all be done with ONE?

You will be amazed how easy it is to bore precision holes with Bokum Boring Tools.

All Bokum tools available in high speed steel (Cat. 1139-6) in Carbide-Tipped (Cat. 398-6) and in Solid carbide (Cat. 948).

BOKUM TOOL CO. DEPT. H • 14775 WILDEMERE AVE. • DETROIT 21, MICH.

If you write maker identify as IEN - 6847

Provide an ACCURATE PRINTED RECORD of PRODUCTION

with Model 5-PVR-1 PRODUCTIMETER

This printing counter installed on a 50 ton Niagara Punch Press performs a dual role:

1. It registers exact number of parts produced
2. It provides a PRINTED record of production (in multiple copies, if desired)

Record systems using this method reflect the accuracy and savings that result from clear, clean records with no errors due to misinterpretation.

Send for Catalog No. 75

DURANT MANUFACTURING CO.

1930 N. Sullivan St., Milwaukee 1, Wis.
130 Orange St., Providence 3, R.I.

Representatives in Principal Cities

If you write maker identify as IEN - 6848

READ AIR VELOCITIES instantly... accurately... anywhere...

...WITH THE ALNOR VELOMETER

Alnor Velometer, a precision-built, self-contained, portable instrument, gives you instant, accurate readings of air velocities anywhere—in plants, mines, mills or laboratories. Measures speed of air flow through ducts, grilles, furnaces, spray booths or in the open. This rugged instrument needs no special care or delicate handling—anyone can use it and get accurate readings. Needs no calculations or reference charts. Available in a wide variety of scale ranges, and with a full assortment of jets and fittings for every application. You'll want full details and prices, so write for Bulletin 2448-G. Illinois Testing Laboratories, Inc., Room 517, 420 No. La Salle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN - 6849

Hamilton Steelwood Drawing Tables

The *lifetime* strength of its heavy gauge furniture steel base makes the *Steelwood* a wiser investment than any other 4-post table. Full welded construction gives it the rigidity to take year after year of tough use with no loss of accuracy. A smooth-working, *concealed* raising mechanism adjusts the perfectly seasoned softwood top up to 42". Four top sizes, 3 drawer arrangements guarantee flexibility.

Permanently RIGID.. Permanently TRUE!

Get the full Steelwood story now. See your Hamilton Dealer or write for complete specifications and ordering data.

HAMILTON DRAFTING EQUIPMENT

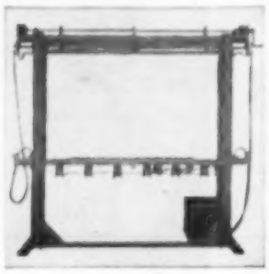
Hamilton Manufacturing Company

TWO RIVERS, WISCONSIN

If you write maker identify as IEN - 6850

WOOD WORKING . . Heated press to adhere wood veneer on panel edges

Source: ELECTRONIC HEATING CORP.
64-68 Needham St., Newton Highlands, Mass.



Known as the Raybond press

Structural members are employed for the uprights with a stationary structural head at the top and a cylinder-equipped rail toward the bottom to provide a work area 72 by 72 in. in this new press. The cylinders connect to a shop air line to apply pressure upward on panels positioned on edge beneath the upper head and above the rail. Pressure and heat supplied by a resistance strip element operating on 110 or 220-volt 60-cycle ac. serve to dry the glue on wood veneer on the edge of the panel. Thickness capacity is 2 in. to take one or a number of panels making up this total. Overall height is 90 inches. Base width of the new press assembly is 24 inches.

If you write maker identify as IEN - 6851

RHEOSTAT . . Circular design rates 25 watts on constant duty

Source: HARDWICK HINDLE INC.
30 Harmon St., Newark 5, N. J.

Designed to "take it"

Type A-25 is a new size in the company's line of rheostats, previously described IEN-3176-52. It is available in a range of capacities minimum to 0.5 ohm and 7.06 amp. in approximately 17 steps, maximum to 1,500 ohms and 0.129 amp. in approximately 290 steps. Base diameter is $1\frac{5}{16}$ inches. Shaft rotation is through 285 degrees. The ¼-in. shaft projects ½ inch.

Construction includes terminals made of corrosion-resistant alloy permanently welded to the winding form, resistance wire wound on a toroidal ceramic form, the wound ring being made an integral part of the refractory base by the use of vitreous enamel. The phosphor-bronze actuating arm carries a graphite brush. The shaft is insulated.

If you write maker identify as IEN - 6852

RECTIFYING . . Booklet of design suggestions on filter circuits to use with selenium rectifier output

Sarkes Tarzian Inc.
413-17 N. College Ave., Bloomington, Ind.

E. W. Chadwick, Chief Engineer of the company's Rectifier Division, is author of new 8-page technical booklet, "Design of Filter Circuits for Selenium Rectifiers." The booklet describes values of capacitor-input, choke-input and resistor-capacitance filters, combination filters, sample calculations.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6853

"...it's the bushing that makes the wHOLE difference"

To maintain maximum accuracy in drilling operations, use the bushing that's precision made for the job...use Acme. Write for catalog.

Acme Industrial Company

Makers of Hardened and Ground Precision Parts
215 N. LAFLIN STREET • CHICAGO 7, ILLINOIS

THE SERVICE SHOP TO INDUSTRY FOR MORE THAN 20 YEARS

If you write maker identify as IEN - 6854

Users of Acadia Synthetic Rubber component parts in hundreds of industries have found them unsurpassed. No matter what function synthetic rubber must perform, depend on Acadia parts. They best meet exacting specifications and operating conditions such as mositure, oil, heat, wear and age resistance. Molded, extruded, die-cut to close limits—compounded to meet specific conditions. Acadia engineers will gladly cooperate.

- Seals
- Gaskets
- Washers
- Cups
- Channel
- Strip
- "O" Rings
- Sheet
- Tubing
- Roll Goods
- Cut Parts
- Lathe Cut Washers

Sheet and Roll Felt Manufactured for Special Purposes and To Meet All S.A.E. and Military Specifications

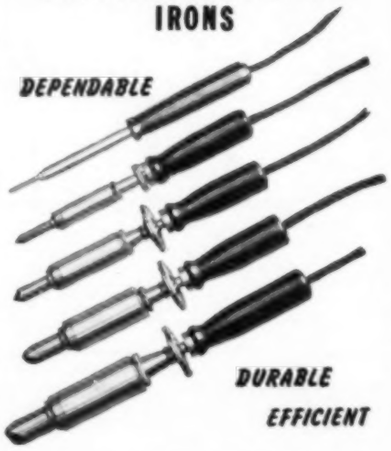
ACADIA Synthetic PRODUCTS

DIVISION WESTERN FELT WORKS
4035-4117 OGDEN AVENUE • CHICAGO 23, ILLINOIS

If you write maker identify as IEN - 6855

American Beauty

ELECTRIC SOLDERING IRONS



are sturdily built for the hard usage of industrial service. Have plug type tips and are constructed on the unit system with each vital part, such as heating element, easily removable and replaceable. In 5 sizes, from 50 watts to 550 watts.

TEMPERATURE REGULATING STAND

This is a thermostatically-controlled device for the regulation of the temperature of an electric soldering iron. When placed on and connected to this stand, iron may be maintained at working temperature or through adjustment on bottom of stand at low or warm temperature.

Write for Catalog Sheets, Form No. 204-CP. Dept. SI-2

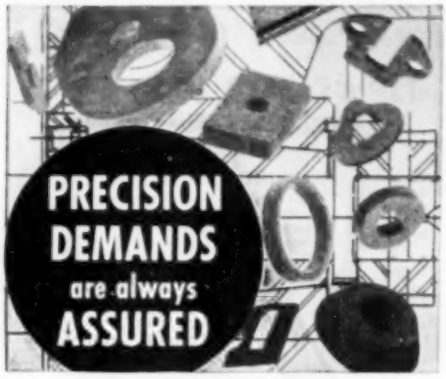
120-9

Since 1894 Always Dependable

AMERICAN ELECTRICAL HEATER CO.

DETROIT 2, MICHIGAN

If you write maker identify as IEN - 6857



Technique of Western Felt production and processing has built an enviable reputation for engineering precision. Chemical specifications must be perfectly met—parts from wool softness to rock hardness are cut to close tolerances. As an extremely versatile material Western Felts are resilient, flexible, compressible. They resist oil, water, heat, age—do not ravel, fray or lose shape. New uses found daily. It pays to depend on Western Felt.

Sheet and Roll Felt Manufactured for Special Purposes and To Meet All S.A.E. and Military Specifications.

WESTERN Felt WORKS
4035-4117 Ogden Ave., Chicago 23, Illinois
Branches in all Principal Cities
MANUFACTURERS AND CUTTERS OF WOOL FELTS

If you write maker identify as IEN - 6858

SCREW
MACHINE PRODUCTS

Highest Possible Accuracy
Closest Tolerances

Made by

DELTAVIS CO., INC.
Soleure, Switzerland

Address Inquiries with Blueprints
and/or Samples to:

DELTAVIS
c/o Herman D. Steel Company
LAFAYETTE BLDG.
PHILADELPHIA 6, PA.

If you write maker identify as IEN - 6859

THERE'S NOTHING LIKE
THE SERVICE
YOU GET WITH NON SKID
dura-tred Co. QUICK-FLOOR

• *Engineering Help Before-and-After Installation! Easy End to Cracks and Holes in Your Floor!*

• No guesswork when you specify QUICK-FLOOR to instant-patch or resurface a worn floor. Not by any means! For your Dura-Tred Engineer helps you every step of the way . . . studies your floor repair needs . . . tells you how much QUICK-FLOOR is required . . . and if need be, supervises simple QUICK-FLOOR application. No delay—no lost production. Five minutes to lay a square foot. QUICK-FLOOR—the heavy-load, durable traction for all types of industrial floors, inside or out—*at very lowest cost.*

Ask for Descriptive Literature

A Few Territories Open for Manufacturers Representatives

dura-tred Co.
352 North Central Park Boulevard • Chicago 24, Illinois

If you write maker identify as IEN - 6860

HANDLING . . Steel dump box to transport scrap and loose materials

Source: EQUIPMENT MFG. CO.
21548-52 Hoover Road, Detroit 5, Mich.

Casters can be added

New application of one of the company's materials boxes provides a means to handle steel scrap and loose materials in connection with a crane. The new unit includes a yoke that is lowered over the box to engage a pair of pivot pins and to position locking fingers on a pin at the top of the box end so it cannot tilt. These fingers can be lifted to release the tilting action when the box is to be dumped.

Standard size is 36 by 42 by 30 inches. Other sizes can be specified. Construction is in corrugated steel with welded square steel tube frame. Caps and sockets at the bottom and top permit tiering in storage.

If you write maker identify as IEN - 6861

ELECTRIC CIRCUITS . . Emulsion coats copper to make printed circuit

Source: TRANS-CEL PRODUCTS INC.
212-42 Jamaica Ave., Queens Village, N. Y.

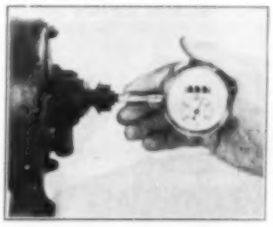
Instruction sheet upon request

Photo-Resist designates a new emulsion and a process by which it is applied on copper, exposed, dyed, washed out and dried in construction of a printed circuit. The company is prepared to supply the emulsion with instructions for its use and to assist in special problems.

If you write maker identify as IEN - 6862

TACHOMETER . . Counts revolutions in desired unit of elapsed time

Source: MONTGOMERY & CO.
53 Park Place, Room 504, New York 7, N. Y.



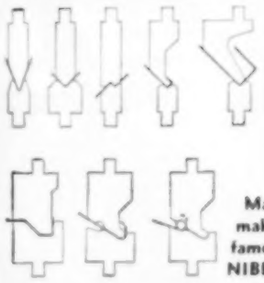
List is $35

Four-wheel counter and a 60-sec. dial are combined in this new tachometer. Both are engaged simultaneously when the driving point is pressed against a revolving shaft. The counter then accumulates revolutions in any desired interval selected by the operator as he watches the dial. After a reading has been made a knob is turned to reset the counter to zero. This action also rewinds the clock. The tachometer is supplied in a velvet-lined leatherette case.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

If you write maker identify as IEN - 6863

BRAKE DIES



Made from FORGED CHISEL STEEL BILLETS

Made by the makers of the famous SEMCO NIBBLER PRESS

• MANY STILL IN USE EVEN AFTER 10, 20 AND EVEN 30 YEARS.
• THEY COST MORE BUT THEY LAST FOR YEARS.

Write for estimates on your work and ask for latest literature.

SEMCO
SERVICE MACHINE COMPANY
INCORPORATED
200 MILLER STREET ELIZABETH, N. J.

If you write maker identify as IEN - 6864

One million LBS.
SPEED PATCH
WORLD'S FINEST, FASTEST, FLOOR FIXER!
SHIPPED TO A SINGLE CUSTOMER

Actually 1,044,014 lbs., Speed-Patch have been purchased by this ONE company. And other customers add up to *more millions* of pounds of proof that Speed-Patch knows no equal. Write for the full Speed-Patch story TODAY!

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7650 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 8

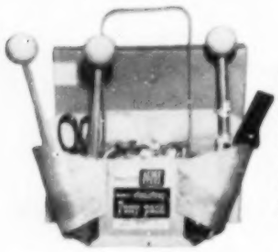
If you write maker identify as IEN - 6865

FAIRBANKS-MORSE,
a name worth remembering

SCALES • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • PUMPS
HOME WATER SERVICE EQUIPMENT • RAIL CARS • FARM MACHINERY • MAGNETOS

If you write maker identify as IEN - 6867

Compact Steel Strapping Kit



New Acme Steel "Pony Pack" is lightweight, handy, complete with tools for fast, low-cost strapping.

Here's a handy, portable strapping outfit for work anywhere in your plant, warehouse, or yard . . . for fastening, re-coopering, securing, or reinforcing anything, anytime, anywhere.

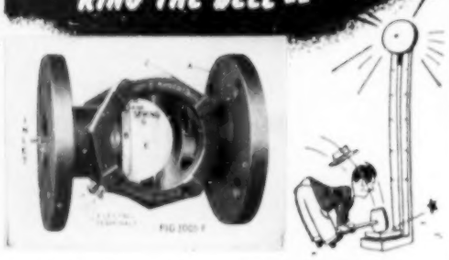
It's Acme Steel's new "Pony Pack:" It weighs about 20 pounds complete with metal carrier, 300-foot coil of Acme Steel strapping, a supply of seals, a stretching tool, sealing tool, and snips. For details, call the nearest Acme Steel office, or write Acme Steel Products Division, Department IEN-62.

ACME STEEL

ACME STEEL COMPANY
2840 Archer Avenue, Chicago 8, Illinois

If you write maker identify as IEN - 6868

NUGENT SIGHT FLOW INDICATORS RING THE BELL --



INSTALL a Nugent alarm type sight flow indicator on your machinery oiling system and put an end to lubricating worries. Here's the sight flow that tells you, by ringing an alarm bell, when oil is not getting to bearings. Fig. 1001 F illustrated here can be wired to any spot in your plant. When oil is flowing properly indicator "B" is open. Interruptions cause "B" to close, make contact with terminals "J" and sound the alarm. This enables you to correct troubles quickly, protects valuable machinery and save on costly down time. Write for full details. Sizes from ½" to 6". Tapped or flanged connections. Removable windows. Can be installed right or left hand or vertically.

Wm. W. Nugent & Co., Inc.
810 N. Hermitage Ave. CHICAGO 22, ILLINOIS
Est. 1897

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . *Representatives in Principal Cities*

If you write maker identify as IEN - 6869

Cut Loading Time in HALF!

WITH **ISLAND PALLET DOLLIES**

Puts an end to the pallet handling problem.

Fork trucks can't enter a reefer car! That's where the Pallet Dolly takes over. Staggered bottom rollers eliminate trouble from floor racks. Has 14 gauge rollers on 4" centers... 2 x 2 x ⅛ angle frame . . . built to handle your pallet . . . all parts are standard equipment. Write for detailed bulletin RTD-1 A.

Dept. IE6
ISLAND EQUIPMENT CORP.
27-01 Bridge Plaza North
Long Island City 1, New York

If you write maker identify as IEN - 6870

SWITCH . . Sensitive snap acting for cam operation, 20 amp., 220 volt ac.

Source: MICRO SWITCH
30 E. Spring St., Freeport, Ill.

For motors to ¾ hp.

Steady current to 20 amp. and inrush current as high as 75 amp. can be handled by this new plunger-actuated snap-acting switch. The plunger is equipped with a roller to contact a cam having a rise of as much as 30 degrees. The plunger assembly can be turned to any position to align its roller with the direction of the cam approach. A nut is then tightened to hold in this position as desired.

The assembly is in a die-cast aluminum enclosure equipped with a cover that is sealed against dust, dirt, oil and moisture. Right and left-hand assemblies are available with reference to location of the plunger and conduit connection.

Operating force is maximum at 29½ pounds. Release force is minimum at ¾ pounds. Pretravel is to 3/32 in. with differential travel to 0.01 in. and overtravel at 0.187 in. or more. The assembly weighs about ½ pound.

If you write maker identify as IEN - 6871

BEARING . . Wear plate contains oil impregnated center core

Source: MICHIGAN POWDERED METAL PRODUCTS CO.
50 Industrial St., Northville, Mich.

Oil feeds as needed

Iron-copper alloy, similar to SAE Type-II Class-B bearing alloy, forms the two faces of this new Stored Lubricant wear plate. The center core is filled with a porous rigid metal sponge impregnated with lubricant. Holes in the two faces, positioned as specified, permit this oil to feed outward to the bearing faces. Hardness and other properties of the plate surface can be varied to meet the requirements of a given application. Plate sizes are maximum at 2 ft. in length and at 25 sq. in. in section area.

If you write maker identify as IEN - 6872

SHAPING . . Instruction booklet tells how to operate a metal-cutting shaping machine

South Bend Lathe Works
301 W. Madison St., South Bend 22, Ind.

Detail description of the company's 7-in. shaping machine is given at the start of new 32-page Booklet 5213, "How to Run a Metal Working Shaper." This is followed by information on cutting tools and holders, mounting the work, adjustment, operation, making a cut, lubrication, accessories. List price of the new booklet is 25 cents.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6873

WATSON-STILLMAN

HYDRAULIC POWER TOOLS FOR INDUSTRY

HYDRAULIC JACKS

These sturdy units, with either independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 20 to 500 tons.

WIRE ROPE SHEARS

W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

PORTABLE PIPE BENDERS

Bends standard, extra heavy and double extra heavy steel pipe from ⅜ in. to 2 in., as well as standard weight pipe up to 3 in. dia. Also solid mild steel bars up to 2 in. dia.

HAND PUMPS

Single and double plunger types, with reservoirs of different capacities for operating small hydraulic tools, jacks and other hydraulic equipment, and for general hydrostatic testing purposes.

Send for your copy of Bulletin A-5 . . . It's Free.

DISTRIBUTOR PRODUCTS DIVISION
WATSON-STILLMAN
ROSELLE, NEW JERSEY

If you write maker identify as IEN - 6874

take a CLOSER LOOK at...

for:

- Seamless and Welded, Pressure and Mechanical, from one source.
- Full range of austenitic and ferritic stainless analyses.
- Sizes up to 8⅝" O.D.
- Wide choice of finishes.
- Special sizes, gauges, ends, shapes, lengths.
- Distributors in principal cities.

Write for new Technical Bulletin No. 1

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
General Offices & Plants
Beaver Falls, Pa.—Seamless Tubing, Welded Stainless Steel Tubing.
Alliance, Ohio—Welded Carbon Steel Tubing.

B&W SEAMLESS and WELDED TUBES

If you write maker identify as IEN - 6875

THE INTERNATIONAL BOXER

PORTABLE STAPLE MACHINE . . . The "Boxer" is a knockout for stapling corrugated or fibre containers. Lightweight (only 4 lbs., 10 oz.) and small (16x3½x7"), it uses the revolutionary International Retractable Anvil . . . stapling filled cartons from the outside. Close your cartons faster . . . neater . . . with fewer staples per unit area, and at less cost per carton.

Write for bulletin No. 101 on the "Boxer." For large daily volume ask about the large automatic Internationals.

INTERNATIONAL STAPLE & MACHINE CO. 805 E. HERRIN ST. HERRIN, ILLINOIS

If you write maker identify as IEN - 6876

for MARINE COMMUNICATIONS or TANK GAUGING

Relays BY GUARDIAN

Series 695 D. C. RELAY

Leading manufacturers of marine radio equipment specify Guardian Controls. Perfected through twenty years of development and use in commercial travel ships and warcraft, they've justified their selection for a wide variety of intricate applications. For example, Guardian Controls have been used *exclusively* over more than fourteen years to transmit and receive remote readings on Telematic Liquid Level gauge systems. Leading pipeline companies and oil refineries report not a single service call since original installations made more than fourteen years ago. Let Guardian Controls serve you . . . *just as well!* Write for catalog.

GUARDIAN ELECTRIC
1620-G W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

If you write maker identify as IEN - 6877

Lightweight for Light Work!

AO's New 608 GOGGLE with Clear Plastic Binding

Safety Goggles

This goggle with clear plastic binding and large, one-piece acetate lens permits a wide field of vision. Meets high optical standards. No metal touches skin. Recommended for wear directly over the eyes or over spectacles for frontal protection against foreign particles on machine and hand tool work, bottling, chemical and physical lab work, spot welding, light grinding, light chipping and light riveting. Supplied with attractive leatherette case. Companion model is AO's 607 goggle with dark binding instead of clear plastic. See your nearest AO Safety Products Representative.

American Optical
SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

If you write maker identify as IEN - 6878

Another adhesive problem solved with *Pliobond*

USE PROVED Products

"We solved the problem by supplying PLIOBOND"

In home and industry, Goodyear's PLIOBOND has solved many tough adhesive problems. For PLIOBOND "bonds anything to anything"—with an easily applied, strong durable bond—chemically resistant, waterproof, and flexible.

In solving tough adhesive problems PLIOBOND has been conveniently applied by brushing, spraying, roller coating, knife application and dipping. For complete details see a PLIOBOND distributor, or write:

Goodyear, Chemical Division
Akron 16, Ohio

CHEMICAL GOODYEAR DIVISION

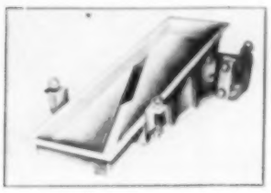
Photo courtesy Dixie Cup Company, Easton, Pa.

Pliobond - T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

If you write maker identify as IEN - 6880

FEEDING . . Vibrating trough unit to evenly spread granular materials

Source: SYNTRON CO.
410 Lexington Ave., Homer City, Pa.



For specified use

Spreader Feeder designates this new design in the company's line of vibrating equipment. It is made of a flat pan trough with a diagonal slot and is intended for installation at right angles to a moving receiver belt. Granular materials are spread out upon the trough by the vibrating action to feed downward in an evenly distributed curtain through the diagonal slot to deposit in a width considerably greater than the trough width on the belt below. The equipment is vibrated by one of the company's standard electro-magnetic units and a variable speed control located in convenient position.

If you write maker identify as IEN - 6881

PACKAGING . . Clamp and hopper apply under standard bagging scale

Source: BURROWS EQUIPMENT CO.
1314-18 Sherman Ave., Evanston, Ill.

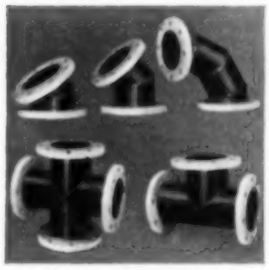
Please note our error

We call your attention to an error in the address we used in IEN-4512-52 in which we placed the company in Evansville, Ind., instead of Evanston, Ill., as correctly shown in this item. The equipment itself was correctly described as a new assembly of adjustable clamp and hopper to mount at the bottom of a bagging scale to secure bags while they are being filled, gripping and releasing them quickly.

If you write maker identify as IEN - 6882

PIPE FITTINGS . . Welded plastic in sizes to 6 in., corrosion proof

Source: AMERICAN AGILE CORP.
P. O. Box 168-A, Bedford, Ohio



Polyethylene plastic is fabricated by welding to produce tees, crosses, 45-deg. and 90-deg. elbows in sizes to 6 in. with flange dimensions the same as American Standard Class 125 cast iron flanged fittings. The new fittings can be employed in existing pipe lines. They bolt in place with a split sheet-metal back-up flange to prevent deformation when the bolts are tightened.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6883

30 DAY DELIVERY

HOW TO SPEED PRODUCTION
HOW TO SAVE ⅓ INSTALLATION SPACE
HOW TO GET MORE BORE POWER
HOW TO SAVE MONEY

Use Dependable, Powerful

O-M CYLINDERS

AIR—WATER—HYDRAULIC

In full range of sizes (1½" to 8" bores). All machined steel with bearing bronze throughout. Interchangeable parts and mounting brackets.

FREE CATALOG Brand new! 28 pages of specifications, diagrams, and parts listing.

FREE TEMPLATES Complete set. Shows all cylinders and mounting brackets, ½ scale.

Write today to

ORTMAN MILLER MACHINE CO.
1208 150th St., Hammond, Indiana

If you write maker identify as IEN - 6884

KLIXON INHERENT PROTECTORS

Increase Motor Life Expectancy • Save Vital Copper, Too!

The experience of countless users and motor re-builders prove conclusively that Klixon Protectors extend the operating life of motors by preventing motor burnouts.

Here's how — should the motor become dangerously overheated, the Klixon Protector snaps the power "off" before the motor windings can burn out. When it cools sufficiently, the protector snaps the power "on" again automatically if the automatic reset type is used . . . or by pushing the red button when the manual reset type is used.

In addition, you help save critical copper thus extending the copper allotment for the manufacture of additional new motors, instead of using it for rewinding of burned-out motors.

Remember, you too, can keep equipment operating, cut maintenance costs by using motors with built-in Klixon Protectors.

SPENCER THERMOSTAT
Division of Metals & Controls Corp.
206 Forest St., Attleboro, Mass.

KLIXON

If you write maker identify as IEN - 6885

New XL BOND

FOR CARBIDE TOOL AND CUTTER **GRINDING**

"XL" is Chicago Wheel's exclusive new bond for silicon carbide vitrified grinding wheels, especially made for grinding carbide cutting tools. Ideal for rough and finish grinding . . . offhand or precision automatic. Supplied in most popular sizes and steel backs. Prompt delivery. Keep your production up . . . costs down, with "XL."

Write today for information—Dept. H

CHICAGO WHEEL & *Mfg. Co.*
1101 West Monroe St., Chicago 7, Illinois
OFFICES IN PRINCIPAL INDUSTRIAL CENTERS

If you write maker identify as IEN - 6886

Avoid large fire losses with

TRIPLE-ACTION WaterFOG NOZZLE

Get the amazing facts today! Send for this free booklet—no obligation

Triple action! Change instantly from high velocity WaterFOG to straight stream to low velocity WaterFOG. Even untrained, unskilled men can easily use Rockwood's new lightweight SG-48 nozzle. Extinguishes and controls fires in both ordinary combustible and flammable liquids *faster—and with less water, less damage.* Operates at 50 psi at the nozzle. Write for Bulletin C-501R. Distributors in all principal cities.

ROCKWOOD
SPRINKLER COMPANY
40 HARLOW ST., WORCESTER 5, MASS.

If you write maker identify as IEN - 6887

GEROTOR*

hydraulic pumps * *

* Pronounced Jer-rotor.
* * Pronounced outstanding in design and performance. Heart of each hydraulic pump is the patented Gerotor mechanism, both elements of which revolve in the same direction at low relative speed. This results in longer life, less slippage, less wear, a smoother and more uniform flow. In your plant or in your product—in any hydraulic circuit—a Gerotor pump means higher efficiency at lower operating cost.

GEROTOR MAY CORPORATION, BALTIMORE 3, MD.

If you write maker identify as IEN - 6888

GPX

CUTS FEED BOARD COSTS

GPX plastic-faced plywood is an old hand at solving production problems. Peck & Harvey, a Chicago blueprinting and photographic equipment manufacturer, discovered GPX's economy, ruggedness and easy workability by using it for feed boards in their Versaliners. GPX, satin-smooth and armor-hard, resists acids, ignores abrasion, provides a snag-proof surface which offers extreme resistance to moisture.

This is only one example of versatile GPX at work. G-P offers expert technical assistance on any production problem you may have. Call your Georgia-Pacific representative or send coupon below.

A FEW PROVEN USES OF GPX—Match plates • Concrete forms • Industrial tables, benches, lockers • Interior & exterior walls for freezers • Ducts • Drying boards • Humidity chambers • Freight cars • Exterior siding • Hobbies & crafts • Truck trailers • Anti-slip flooring

GEORGIA—PACIFIC PLYWOOD COMPANY
614-6A North Capitol Way, Olympia, Wash.

OFFICES OR WAREHOUSES IN: Augusta, Birmingham, Boston, Chicago, Columbia, Detroit, Lancaster, Louisville, Memphis, Nashville, Newark, New Hyde Park, Olympia, Orlando, Philadelphia, Pittsburgh, Providence, Raleigh, Richmond, Savannah, Vineland.

For complete data, fill in and mail this coupon today

Georgia-Pacific Plywood Company
Plastic Plywood Division
Marsh Street
Port Newark 5, N. J.
Please send me the GPX Use Folder.
NAME
FIRM NAME
FIRM ADDRESS
CITY STATE
POSITION

If you write maker identify as IEN - 6890

TESTING . . Resistance meter to measure conductivity of a floor

Source: ASSOCIATED RESEARCH INC.
3762 W. Belmont Ave., Chicago 18, Ill.

To detect trouble

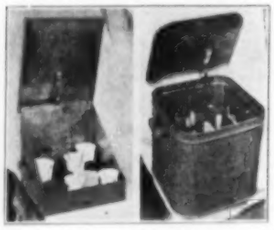
Vibrotest Model 267 is a new battery-operated instrument providing a meter range of 0 to 200 megohms on a test potential of 500-volt dc. Ranges also are provided between 0 and 20,000 ohms at 150, 300 and 600-volt ac. and dc. The instrument is assembled in a welded steel housing that measures 12 by 10 by 9 inches. It employs measuring electrodes that connect through 5 and 10-ft. test leads. Weight with the batteries is 31 pounds.

The instrument applies in testing conductive floors where static charges or stray electrical potentials may cause explosions in hazardous atmospheres or materials. Changes in floor conductivity caused by wear, washing, waxing or the presence of foreign materials such as grease, iron filings, dirt, can all be checked.

If you write maker identify as IEN - 6891

STORING . . Fire safe containers to hold paints and paint brushes

Source: PROTECTOSEAL CO.
1918-22 S. Western Ave., Chicago 8, Ill.



List is $14 and $22

Small cans of paint and one can fitted with a spring rack for striping brushes are stored in fire-safe position in the new No. 5512 metal cabinet to the left in the illustration. Paint brushes are held in clips in a metal basket and the basket fits into the new No. 1448 brush rack tank shown to the right. Both are made of metal and are equipped with fusible links that will melt and release the spring-backed covers to close when temperature reaches 160 deg. F. Oxygen is quickly exhausted so any fire that might start in either container is snuffed out almost as soon as the cover reaches closed position. Dimensions are 12 by 12 by 12 in. for the paint-can unit. They are about 14 by 12 by 8½ in. for the paint-brush unit.

Identify as IEN - 6892

Inspection of tools, gages, instruments, is facilitated by a new set of forms and procedure based on the McCaskey equipment originally developed for tool-crib control. The seven forms are shown and described in a folder that will be mailed to your request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6893

Aeroquip

FLEXIBLE HOSE LINES and DETACHABLE FITTINGS

Cut Costs 9 Ways

1. Reduce inventory.
2. Reduce expensive downtime.
3. Permit you to salvage old hose lines.
4. Make possible immediate repair of hose line failures.
5. Eliminate the need for factory assembled hose lines.
6. Permit you to make hose lines to desired length as required.
7. Permit you to replace rigid tubing failures on the spot.
8. Eliminate the need for rigid tubing forms and jigs.
9. Permit you to make hose lines for mock-up installations rapidly.

AEROQUIP CORPORATION
JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

If you write maker identify as IEN - 6894

Have you a similar fastening problem?

File: Simmons LINK-LOCK

When the armed forces needed a positive, high-strength fastening device for instrument housings, transit cases, and storage boxes, Simmons developed LINK-LOCK. This brand-new device works with fingertip pressure, furnishes up to 450-lb. pull-down pressure. Open or closed, it always lies perfectly flat.

LINK-LOCK may be the answer to your fastening problem. If your design involves heavy fastening pressures, watertight sealing, high strength, resistance to impact, write for LINK-LOCK DATA SHEET.

SIMMONS FASTENER CORPORATION, 1758 No. Broadway, Albany 1, New York

Simmons
LINK-LOCK
QUICK-LOCK
SPRING-LOCK
ROTO-LOCK
FASTENERS WITH USES UNLIMITED

If you write maker identify as IEN - 6895

CALCULAGRAPH

figures elapsed time accurately

Reliable job time records are essential for compiling correct cost data, estimating reorders and checking on production efficiency. One sure way to secure accurate to the minute, dependable time costs is to use Calculagraph automatically-figured elapsed time records. Calculagraph gives you total elapsed time, starting and finishing time and date on a permanent, printed reference card. Eliminate losses due to inaccurate job time calculations by using Calculagraph to time your operations.

Write for full information today, to Dept. A.

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

If you write maker identify as IEN - 6897

FOR *Strictly* IMPERSONAL INSPECTION CHOOSE AMES DIAL COMPARATORS

Ames Dial Comparators make the inspection of duplicate parts an extremely simple, rapid and accurate operation. Ames Comparators are strictly impersonal in their accuracy—the results being in no way dependent on the skill or judgment of the operator. The pressure of the gauging members against the work is mechanically determined and therefore uniform.

Check the Ames Dial Comparators shown—one of them may solve a Quality Control problem for you.

Ames No. 1 is an easily adjustable bench model dial comparator that measures objects up to 2" in cross section. This comparator is designated *Ames No. 1W* when equipped with a dead-weight and contact to ASTM specifications for measuring resilient materials.

Ames No. 2 is a compact bench model dial comparator for measuring sheet metal, glass, hard rubber. *Ames No. 2W* is similar, but is furnished with dead-weights and contacts to ASTM specifications for checking textiles, plastics, sheet rubber, etc.

Ames No. 13 features flat-ground, cast-iron base of ample size for using V-blocks and locating fixtures. The No. 13 can be fitted with a fine adjustment for close setting. Adjustable bracket holds any Ames Indicator.

Ames No. 130 is designed especially for inspecting comparatively large and cold-shaped parts. For this reason, the flat-ground steel base, the adjustable indicator support, and the upright column are proportioned to the user's requirements.

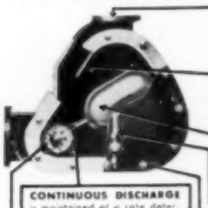
Send us your Quality Control job specifications, and we will supply complete details and proposal without obligation.

Representatives in principal cities. **B. C. AMES CO.** Ask Your Supplier for Ames

Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

If you write maker identify as IEN - 6898

COCHRANE MULTIPORT DRAINERS



INLET is at top. No possibility of drainer becoming airbound.

DEFLECTOR prevents entering water from striking the float.

INSTANT RESPONSE is assured by large operating power obtained from leverage exerted by float buoyancy.

CONTINUOUS DISCHARGE is maintained at a rate determined by the height of condensate in the body. Valve shuts off discharge when level falls.

GAGE GLASS with guards and try cock, shows visibly the height of condensate at all times.

TREMENDOUS DISCHARGE CAPACITY is assured by unusually large port areas. Condensate is discharged through a rotating cylindrical valve.

COMPLETE ACCESSIBILITY upon removal of cover, without disturbing mechanism or piping connections. Float and attached valve are removable.

This consistently popular drainer is used for removing large quantities of condensate from evaporators, heaters, separators, coils, etc. under vacuum or positive pressures up to 200 lbs. per sq. in.

COCHRANE CORP., 3152 N. 17th ST., PHILADELPHIA 32, PA.

89 YEARS OF PROGRESS **COCHRANE**

If you write maker identify as IEN - 6899

REDUCE FILTRATION TROUBLES!

Need a filter but worried about filtration costs, operation, or suitability for your purpose? Then get your Free Copy of the Titeflex® Filter Booklet right away.

Ask for a Titeflex Engineer to set you straight on costs and equipment for your special needs. No obligation. Mail coupon today.

FREE BOOKLET . . . **FREE ADVICE**

Businesses served by Titeflex Filters include . . .

Chemical + Distilling	Dry Cleaning
Electroplating	Paints & Lacquers
Soap + Cosmetics	Water
Pharmaceuticals	Food Processing
Wine + Beverages	Edible Oils
Machine Tool	Food Extracts

Titeflex

Let Our Family of Products Help Yours

MAIL COUPON TODAY

TITEFLEX, INC.
506 Frelinghuysen Ave., Newark 5, N. J.

☐ Please send me a copy of your Free Booklet about Titeflex Filters.

☐ We need the advice of a Titeflex Filtration Engineer . . . without obligation on our part.

NAME _____
TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

If you write maker identify as IEN - 6900

DIE CASTING . . Hydraulic machine, to 20 lb. in aluminum, 25 lb. in zinc

Source: LAKE ERIE ENGINEERING CORP.
325 Woodward Ave., Buffalo 17, N. Y.

600 ton model is shown

Five sizes with die plates measuring 23 by 21 in. to 66 by 66 in. are included in a new line of hydraulic die-casting machines. All sizes are available in plunger goose-neck type for lead, tin and zinc and in cold-chamber type for aluminum, brass and magnesium to meet requirements in standard metals.

Locking pressure on the die ranges from 100 to 1,000 ton. Space between the die bars is 14½ by 12½ in. to 40 by 40 inches. The die opens to 9 in. on the smallest machine, 28 in. in the largest one. Die space is minimum at 7 to 12 in., maximum at 14 to 48 inches. The drive employs a 15 to 80-hp. motor. Floor space is 13½ by 4 ft. to 34 by 7 feet.

The new design is characterized by a Wedge Cam toggle in which circular cam-contact surfaces operate with rolls to guide the toggles during engagement and disengagement in order to take up clearances in the dies due to contraction and expansion of the molds. The assembly also includes the company's Pressure-Pac injection unit, in which a hydraulic pressure booster is included in the circuit between the accumulator and the injection cylinder to provide added pressure to feed the shrink or compress porosity at the time of metal solidification.

Control centers at a push-button panel. The smallest machine will handle 600 shots of zinc per hour or 400 shots of aluminum. The largest will handle 200 shots of zinc or 150 shots of aluminum per hour of standard operation.

If you write maker identify as IEN - 6901

INSULATING . . Liquid plastic foams to hard consistency in a cavity

Source: ARMOUR & CO.
1353-57 W. 31st St., Chicago 9, Ill.

Reaction complete in 20 minutes

Armofoam is a new two-part liquid formulation for mixing just prior to use to pour into cavities. Following the foaming reaction that takes place the finished material has pronounced structural strength, stability to heat, insolubility in water and most petroleum products. It has good thermal, sound and electrical insulating properties. It bonds, during the reaction, to most any type of material. It is particularly suited to fill cavities where light weight, structural strength, vibration dampening and durability are desirable factors. Adhesion to the cavity walls enables it to become integral.

The two liquids are kept separate in storage at 70 deg. F. or lower. Mixing calls for 100 parts of one of the two liquids and 25 parts of the other, both by weight. Mixing interval, prior to start of foaming, is about 1½ min. at which time the solution will have assumed a creamy appearance and be ready to pour. Myriads of tiny cells are formed by the release of carbon dioxide during the foaming action. Density ranges from 3 to 20 lb. per cu. ft. depending on the handling procedure. Compressive strength of a sample with 4-lb. density is 14 lb. per square inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN - 6902

for IMMEDIATE DELIVERY

on these

AMSCO welding products

Contact your AMSCO Distributor.

Amsco AW-79 for Automatic Hardfacing. This new alloy is now available. $\frac{5}{32}$" and $\frac{3}{16}$" in 22½" ID, 100 lb. coils.

The following Amsco rods are ready for prompt delivery in all diameters, bare and coated.

- Amsco No. 459
- Amsco No. 217
- Amsco No. 6
- Amsco No. 1
- Formface
- Chromeface
- Air-Hardening

Rods below are available in all diameters, *coated only:*

- Amsco HF-40
- Amsco HF-60
- Amsco Co-Mang

Tungsten Carbide, V-Mang, and Toolface are also available. Amsco Dieweld can be supplied in all diameters except $\frac{5}{32}$", bare and coated. In addition, Carbon Steel Grousers, CS-1 and CS-2 are available now.

A complete line of manganese steel dipper tooth repointer bars and other shapes are available with reasonable delivery dates.

For complete technical details on Amsco Rods, ask your dealer for a copy of Bulletin 650-W.

AMERICAN Brake Shoe COMPANY — AMERICAN MANGANESE STEEL DIVISION
415 EAST 138th STREET • CHICAGO HEIGHTS, ILL.

Other Plants: New Castle, Ind., Denver, Oakland, Cal., Los Angeles, St. Louis. In Canada: Jeffrey Steel Division, Jeffrey, Que. Amsco Welding Products distributed in Canada by Canadian Liquid Air Co., Ltd.

If you write maker identify as IEN - 6903

Spring manufacturer maintains peak production

● Since the installation of Cyclone Chain Drive Spiral Woven Belts to carry automobile and truck springs through tempering and hardening processes, this well-known manufacturer reports a definite production increase. More and better springs are produced in less time, constant speed through draw furnace assures uniform hardness and tempering, reducing rejects to a minimum.

Cyclone Conveyor Belts are available in three types—Spiral Woven, Flat Wire and Flex-Grid—in a variety of metals, alloys, finishes and mesh and wire sizes. For more information on how Cyclone Conveyor Belts can be adapted to your particular operations, write Dept. C-62 for a free copy of our Catalog 84.

U·S·S CYCLONE METAL CONVEYOR BELTS

CYCLONE FENCE DEPARTMENT
AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL COMPANY
WAUKEGAN, ILLINOIS

USS

UNITED STATES STEEL

If you write maker identify as IEN - 6904

the FORCE

AUTOMATIC 3 ACTION

numbering machine

MODEL 150

3 movements — consecutive, duplicate, repeat. Triplicate or quadruplicate available in place of duplicate.
Prefix letter wheels available in place of figures.
Clear-cut figures, 6 wheels.

Write for catalog E

345678
Facsimile Impression

WM. A. FORCE & COMPANY, INCORPORATED
64 White Street, New York 13, N. Y.

If you write maker identify as IEN - 6905

POWER FOR TOOLS ...LIGHTS FOR SAFETY! FAIRBANKS-MORSE GENERATING SETS

Available in capacities from 600 to 35,000 watts.

Construction and repair crews working away from high power lines will find a dependable source of electric power in a Fairbanks-Morse Generating Set.

These generators are widely used by railroads, lumber camps, oil field operators, government services, public works contractors and many others, because of their ability to take hard knocks and still deliver power.

Send for booklet describing the complete line of Fairbanks-Morse Generators. Write Fairbanks, Morse & Co., Chicago 5, Ill.

FAIRBANKS-MORSE,

a name worth remembering

If you write maker identify as IEN-6906

JENKINS VALVES for Safety and Economy in L.P.G. SERVICES

Check these special design features:

- **Extra heavy, reinforced body** — takes all ordinary pipe strains; provides a safety factor far above any L.P.G. service needs.
- **Crowned seat** — insures positive tightness, meets N.B.F.U. test of 500 p.s.i. under seat when valve is closed.
- **Improved composition disc** — meets every test of L.P.G. service.
- **Deeper packing box** — and spiral, lubricated packing material permit spindle to turn with minimum friction.
- **All other parts specifically designed** and proportioned to meet rigorous requirements of critical L.P.G. service.

Fig. 506 BRONZE GLOBE for L.P.G. SERVICE 400 lbs. O.W.G.

Construction features of Jenkins Fig. 507 Check and Fig. 508 Angle L.P.G. Valves same as for above

Ask your Jenkins Distributor for the new Jenkins L.P.G. Valve folder, or write Jenkins Bros., 100 Park Ave., New York 17

LOOK FOR THIS DIAMOND MARK

JENKINS VALVES

If you write maker identify as IEN-6907

JOY WL-80 "UNITAIR"

the Compressor of 1000 uses

81 to 640 CFM

- A size for *every* standard motor rating
- Air cooled . . . Two stage
- Force-feed lubrication
- Small floor-space requirements

Write for this FREE HELP!

New 16-page Bulletin A-56—has complete details and a Selector Chart to help you choose the right compressor for your needs.

Consult a Joy Engineer

W&D 18087

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

If you write maker identify as IEN-6908

FEL-PRO offers engineering help . . . on GASKETING problems

that extends from DESIGN

and MATERIAL SELECTION

to the FINAL INSTALLATION

FEL-PRO's gasketing service is *complete!* When you call on FEL-PRO you get the benefit of more than 30 years' experience in gasketing skill. You get help in the design of specialized gaskets, help in the selection of a wide variety of gasketing materials to best suit your needs, and finally, help in the proper installation and handling of gaskets and packings. This complete engineering service is your assurance of high performance standards and maximum economy. FEL-PRO invites your inquiries on any gasketing problem.

FELT PRODUCTS MFG. CO. 1523 Carroll Avenue, Chicago 7, Illinois
Warehouses in: Atlanta, Boston, New York, Los Angeles, Oakland, Portland

FEL-PRO ENGINEERED gaskets

If you write maker identify as IEN-6909

METER . . Measures liquid flow through an open channel flume or weir

Source: BRISTOL CO.
Griggs & Kelsey Sts., Waterbury 20, Conn.

New Series 500 supersedes Model 40M

The head of water at a specified distance upstream from a weir plate or flume throat is measured with a float-and-tape mechanism in this new design in the company's line of open-channel flow meters. The measurement is intepreted by a mechanical cam into terms of flow to be recorded on a uniform chart and integrated if desired.

A copper float is standard construction but floats of other materials for use with sewage, acid waste or other corrosive liquids can be supplied. In a mechanical type of meter design, a cam moves the pen arm across the chart. In an electric type, also available, the cam is cut to the curve of the weir or flume and impulses are transmitted by a pair of conductors. In addition to indicating and recording, the meter can be employed with pneumatic or electric operation for control.

If you write maker identify as IEN-6910

DRIVE . . Molded V-belt sheave, 2 to 6 in. diameters in ½ in. steps

Source: W. C. PRODUCTS INC.
1746-50 Berkeley St., Santa Monica, Calif.

Non-restricted material

Compolene, a new type of fibrous material, is molded to close tolerances under high pressure in the manufacture of this new V-belt sheave. It is intended to drive light duty equipment. It is not subject to attack by moisture, oil or change in temperature. It cannot corrode.

Stock sizes range from 2 to 6 in. in outside diameter in ½-in. steps. Bores are ½, ⅝ and ¾ inch. Keyways can be supplied to specification. Overall width is 1⅛ inches. An Allen set screw is included in the hub.

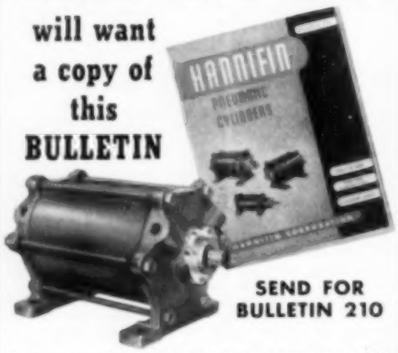
Identify as IEN-6911

Report by Allegheny Ludlum Steel Company tells about a new group of stainless steels in which chromium-manganese alloys containing little or no nickel have been introduced as suitable alternates for 18-8 stainless steels under certain conditions. The new steels are now in quantity production and available for your use.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6912

EVERY ENGINEER will want a copy of this BULLETIN



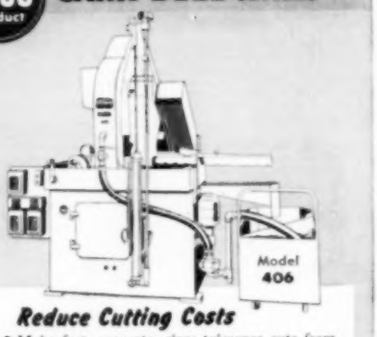
SEND FOR BULLETIN 210

It's easy to get the right cylinder for even the most special jobs when you use Hannifin's big handbook on PNEUMATIC CYLINDERS. 49 pages of helpful specification and engineering data, complete with diagrams and dimensions. The Hannifin line is complete! 6 standard mountings . . . many combination mountings . . . adjustable cushions at either or both ends . . . 2 types of pistons . . . bores to 16". Exclusive construction features assure trouble-free, efficient operation. Send for Bulletin 210. Hannifin also builds custom cylinders in quantity to special design. *Bring us your cylinder problems.*

HANNIFIN
1107 S. Kilbourn Ave., Chicago 24, Ill.

If you write maker identify as IEN-6913

an ACCO product CAMPBELL ABRASIVE CUTTERS



Reduce Cutting Costs

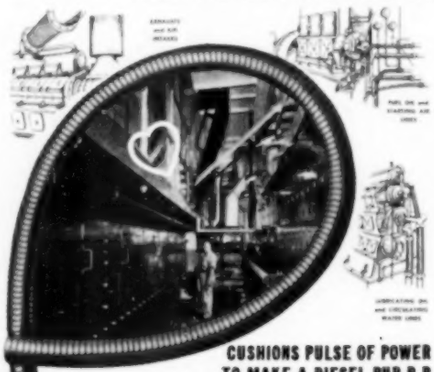
- Make fast, accurate, close tolerance cuts from hard or soft, round, hex, square, or shaped stock. Work and wheel thoroughly cooled. Wheel entirely enclosed in steel safety guard. Many models. Many automatic features.

Write for "*Principles of Abrasive Cutting.*"

ACCO
CAMPBELL MACHINE DIVISION
AMERICAN CHAIN & CABLE
941 Connecticut Ave., Bridgeport, Conn.

CAMPBELL Abrasive Cutters

If you write maker identify as IEN-6914



CUSHIONS PULSE OF POWER . . . TO MAKE A DIESEL PUR-R-R

PENFLEX FLEXIBLE, TUBING DAMPS VIBRATION OUT OF THE "TITAN'S" DIESEL EXHAUST. Running from exhaust to stack is a flexible section of 18" Penflex interlocked metal tubing. As the "Titan" flexes its mighty muscles, Penflex flexes to soak up all vibration. Extra outer jacket provides efficient air cooling. Tubing is safe, tight as pipe—but flexible.

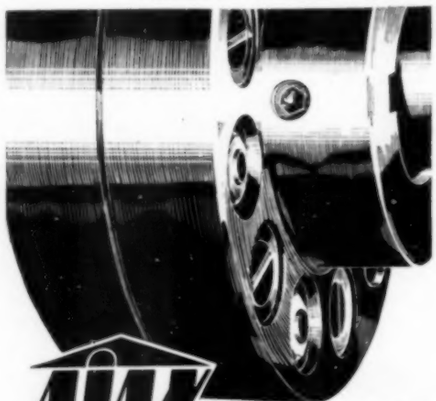
In the diesel power field—on exhausts and air intakes . . . fuel oil and starting lines . . . lubricating oil and circulating water lines . . . or the many other places where tubing is used—you'll find Penflex engineers ready and eager to help you solve your toughest tubing problems. For details on Penflex flexible tubing for all diesel applications, write today for your copy of Bulletin 71.

Pennsylvania Flexible Metallic Tubing Company, Inc., 7200 Powers Lane, Phila. 42, Pa.
Branch Sales Offices: Boston • New York • Chicago • Houston • Cleveland • Los Angeles

enflex

HEART OF INDUSTRY'S LIFE LINES

If you write maker identify as IEN-6915



AJAX RUBBER BUSHED FLEXIBLE COUPLINGS

standard of industry for 30 years

- Protect expensive direct-driven machines against damage from unavoidable misalignment. Cut machine design, installation and maintenance costs. Write for bulletin.

AJAX FLEXIBLE COUPLING CO. INC., WESTFIELD, NEW YORK
Incorporated 1920

If you write maker identify as IEN-6916

WITH EXIDUST VACUUM CLEANERS

Why take the risk of such dust hazards as burned out factories . . . hospitalized workers . . . damaged machinery . . . contaminated products?

HERE'S YOUR BEST POLICY... Put Exidust to work in your plant. You eliminate these hazards immediately and at low cost. The powerful suction action of an Exidust system in your plant will pick up any material...soot or sand...flour or coal...dust, grime and even metal chips from any surface. And—you can use Exidust as a reclaimer of materials too!

TAILORED TO YOUR PLANT... Every Exidust system is custom-made to fit individual plant requirements. Essentially, Exidust is built around a Billmyre Vacuum Producer and separator-filter tank with inlet valves which are located on each floor of your plant. You can depend on Exidust to efficiently and economically serve your needs as it has others for over 30 years. Write today for Exidust Bulletin D-5. Lamson Corporation, Billmyre Blower Division, 450 Lamson St., Syracuse 1, N.Y. Offices in principal cities. Consult your Redbook.

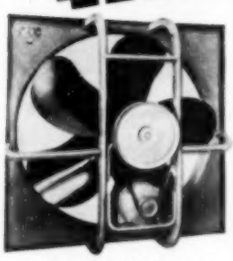
LAMSON

If you write maker identify as IEN-6917

INCREASE your production with efficient—

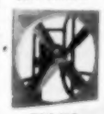
CHELSEA INDUSTRIAL FANS

—A TYPE FOR EVERY APPLICATION!



CHELSEA TYPE IND EXHAUST FAN For factories, mills, theatres, schools, hotels and churches. Features belt drive with ball bearing motor and fan shaft. Sizes from 24" to 72".

TYPE MC MANCOOLER BELT DRIVEN



TYPE PLF POWER LINE EXHAUST FAN

TYPE BB ALL PURPOSE EXHAUST FAN

TYPE PHD PENTHOUSE UNIT

TYPE PLDX POWER LINE DUCT BOOSTER

TYPE PLDU POWER LINE AIR BLASTER

STEP-UP OUTPUT and quality of workmanship, reduce industrial accidents and employee fatigue with proper ventilating and cooling equipment. CHELSEA Fans remove excessive heat, fumes, dirt, dust and grit, also dead stale air. 30 models, in over 200 sizes, are available, and each fan or blower is especially engineered and tested for its recommended applications. All ratings are certified by P.F.M.A. test methods to insure proper performance. Check on your ventilating requirements, now.

NEW CATALOG No. 400 now available! Complete data and specifications on fans and blowers for every industrial and commercial application—address requests to Dept. R6.

Certified Ratings

PROPER VENTILATION IS AN INVESTMENT!

Look for this Symbol of Quality . . . ← Look for this Seal of Certified Ratings

CHELSEA

CHELSEA FAN & BLOWER CO., Inc.
PLAINFIELD, NEW JERSEY

If you write maker identify as IEN-6919

HEATING . . Gas fired torch connects to standard lpg. cylinder

Source: INDUSTRIAL ENGINEERED PRODUCTS CO. 7414-18 Melrose Ave., Los Angeles 46, Calif.

List is about $20

Bazooka No. 336P is a new assembly of torch equipped with a pistol-grip handle and an extension hose for connection to a standard butane-propane cylinder. The torch operates at tank pressure so no regulator is required. The extension hose is 12 ft. in length. The torch weighs 2½ lb. with the hose. It produces a flame ranging from 5 in. to 20 in. in length and from 1 to 5 in. in diameter. It is suited for pre-heating, annealing, melting, soldering, thawing, paint burning.

If you write maker identify as IEN-6920

PLASTIC . . Laminated sheet employs flame retardant resin binder

Source: SYNTHANE CORP. 50 S. River Road, Oaks, Pa.

Will not support combustion

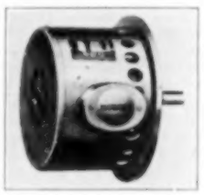
The company announces development of a new flame-retardant resin with which it is prepared to manufacture its various forms of laminated plastic sheet to provide a material with fire-resistant characteristics. Production to date has been primarily in punching stock with thickness ranging from 0.015 to 0.125 in. and standard sheet size at 36 by 36 inches. Flame retardant construction is available also in tubing and rod to specification.

Initial application has been in television receivers where metal-clad forms of the laminated sheet are used for printed circuits. Circuit-breaker parts represent another point of use.

If you write maker identify as IEN-6921

MOTOR . . Induction, flanged design minimizes axial length, ½ to 20 hp.

Source: HOWELL ELECTRIC MOTORS CO. 552 Howell St., Howell, Mich.



The company has released preliminary information on its new Pancake design of electric motor in which stator and rotor have been assembled to minimize overall length. The design is available for specified purposes with rating at ½ to 15 hp. at 1,800 rpm. The motor can be built also in ratings from ½ to 20 hp. for intermittent duty. Operation is on 220 or 440 volt 3-phase 60-cycle ac.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6922

SUB-MINIATURE CANNON PLUGS

tiny but rugged

Series D—the new sub-miniature Cannon Plugs have 15 contacts for #20 or #27 AWG stranded wire. Others in the series have 25, 37 and 50 contacts. These new plugs meet a long felt need of the Electronics Industry for a sturdy, versatile, and extremely compact connector for use on miniaturized equipment of all kinds. Junction shells make them useable as (1) rack and panel (2) box (3) wall, or (4) cord connectors.

Contacts are machined from copper base alloy, gold plated, rated 5a. High dielectric insulators. Minimum flashover 1000 v. rms. Write for bulletin D-1.

CANNON ELECTRIC

CANNON ELECTRIC

SINCE 1915 — Factories in Los Angeles, Toronto, New Haven, Boston Harbor. Representatives in principal cities. Address inquiries to Cannon Electric Company, Dept. F-112, P. O. Box 75, Lincoln Heights Station, Los Angeles 31, Calif.

If you write maker identify as IEN-6923

S.S.WHITE Elastoplastic PLUGS and CAPS

Slipped into or over the ends of plain tubing, these plugs and caps protect the ends and keep out dirt and moisture.

Made of flexible Vinylite plastic, they are resistant to most oils, offer high electrical insulation, and are easily applied and stay put. For details

WRITE FOR BULLETIN P-5107

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, Calif.

If you write maker identify as IEN-6924

For Extreme Air Purification

For the many applications where toxic and radioactive particles are a threat to production processes or health, the new M.S.A. Ultra-Aire Space Filter offers an effective and dependable safeguard. Outstanding for its high mechanical filtering ability, this device can be used to clean outgoing or incoming air for greater safety in a wide variety of manufacturing operations. It is simple in design, rugged, and lasts about 1½ years when protected by a rough filter. Available in many sizes. Write for details.

• 99.9% plus efficiency* • Longer useful life
• High air flow capacity • More capacity per unit of volume

*Tested with DOP smoke particles 0.3 microns in diameter

MSA SAFETY EQUIPMENT HEADQUARTERS

MINE SAFETY APPLIANCES CO.
Braddock, Thomas and Meade Sts.
Pittsburgh 8, Pa.
At Your Service
89 Branch Offices in the United States

If you write maker identify as IEN-6925

*Overcured Sections — unavoidable every 30" to 40" in all belts made by the flat press method. Only Rotocuring eliminates the major cause of belt failure.

OCS* means Trouble Ahead!

This Achilles Heel of Conventional Conveyor Belts now completely eliminated by ROTOCURE

The manufacture of conveyor belting by conventional flat press curing results in overcured segments 2" to 4" long across the belt width. These weakened portions of the belt are inherent in this process of "start and stop" vulcanization. They get a double treatment because earlier cured areas move forward *less than a full press length*.

Rotocure, the modern BWH method, eliminates these Achilles Heels of otherwise strong belting. Your Rotocure belt is *constantly* in uniform motion during vulcanization.

How does it pay off? In (1) elimination of mechanical distortion at the press ends, (2) up to 40% increased belt flex life, (3) constant, uniform stretch, (4) uniform, abrasion-resistant covers.

BWH

Look into BWH rotocured conveyor and transmission belts. They permit operation at lower tensions . . . give you an *additional* bonus in extended belt life.

Another Quality Product of
BOSTON WOVEN HOSE & RUBBER COMPANY
Distributors in all Principal Cities
PLANT: Cambridge, Mass. • P. O. Box 1871, Boston 3, Mass., U. S. A.

If you write maker identify as IEN - 6926

SPEED HAND-LABELING ON HARD-TO-LABEL JOBS with Mystik Self-Stik LABELS

SPEED PRODUCTION—No moistening. Stick instantly.

EASY APPLICATION on hard-to-reach, hard-to-label surfaces.

FLEXIBLE and stretchable for curved or uneven surfaces.

PERMANENT—Resistant to stain, moisture, scuffing, delamination. Removable, if desired, without staining.

BEAUTIFUL—Finest color printing, die-cut, embossed, varnished or acetate laminated.

The outstanding qualities of MYSTIK LABELS are due to rubber-saturated stock and the strongly bonded rubber adhesive, providing strength, flexibility, ruggedness, strong adhesion and ease of handling. Write for full information and samples.

CHICAGO SHOW PRINTING COMPANY CHICAGO • NEW YORK

2644 NORTH KILDARE • CHICAGO 39

If you write maker identify as IEN - 6927

SMALL AIR CYLINDER PACKS POWERFUL PUNCH

At 100 lbs. air line pressure this Super-Speed 2½" bore Bellows Air Motor develops enough force to punch a ½" diameter hole through ⅛" thick mild steel. The speed of the piston rod is six to ten times the maximum speed of a standard air cylinder of the same bore.

BUILT-IN VALVE AND CONTROLS

The Super-Speed Bellows Air Motor comes complete with either a built-in manually operated valve or the Bellows Electrosafe electrically-controlled valve, with or without safety controls. Standard stroke lengths 2", 2½", 4", 6", 9" and 12".

Write Today for Bulletin CL30

Learn how you can use Bellows "Controlled-Air-Power" to produce more — at less cost. Address The Bellows Co., Dept. IEN 652.

THE Bellows CO.

AKRON 9, OHIO

If you write maker identify as IEN - 6928

Automatically SOUNDS SIGNALS, OPERATES EQUIPMENT ON ACCURATE SCHEDULES

Montgomery PROGRAM CLOCKS & INDUSTRIAL TIMERS

Program clocks for automatic control of signal systems, governing work periods, permitting manual operation for special programs or emergency alarms without affecting accuracy of pre-set schedule.

Industrial timers start and stop equipment automatically to a pre-set schedule. Wide application for shop and laboratory operations. Special timing equipment engineered to your requirements.

Request free specification and data sheets

MONTGOMERY MANUFACTURING CO., Owensville 8, Ind.

Please send free Industrial Timer data sheets.

Name .....

Position ..... Company .....

Address ..... City ..... State .....

If you write maker identify as IEN - 6929

MOWING . . Engine driven machine with vertical shaft single blade cutter

Source: PEARCE CORP. 142-46 E. Highland, Dept. A, Milwaukee 2, Wis.

List is $477

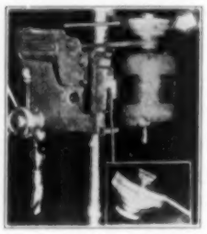
The cutter in this new Model-M mowing machine is a double-end unit to rotate in a horizontal path at the bottom of its vertical shaft. It cuts a path 31 in. in width as it is rotated and advanced by the engine drive. Air-Lift action, created by a vane located on each end of the cutter, lifts matted-down grass so it stands up straight to be cut off by the sharp edges of the blade.

The engine is belt connected to a transmission which, in turn, is chain connected for the travel drive. A separate belt drives the cutter-blade shaft. The operator engages and disengages a Twin Disc friction clutch for the travel movement. He also is able to start and stop the cutter blade independently. The engine is a Briggs & Stratton 4-cycle air-cooled unit with its crankshaft mounted on ball bearings. The mower wheels are mounted on ball and roller bearings. Alemite lubricant fittings are standard equipment. Weight of the new machine is 465 pounds.

If you write maker identify as IEN - 6930

DRIVE . . Speed reducer for application on drilling machine

Source: PULL-GEAR CO. 21123-27 Dequindre, Dept. 101, Hazel Park, Mich.



List is $55

In effect a "back gear" is inserted into the motor drive on a drilling machine when this new sheave-type speed reducer is mounted on the motor shaft in place of its standard three step sheave. The gearing inside the sheave housing provides 4½ to 1 speed reduction when the reducer is engaged by turning a finger lever at the top of the assembly. When it is disengaged the drilling machine has the same range of speeds as it had prior to making the application. Aluminum is employed in the construction. Three sizes carry ½, ⅝ and ¾ in. bores.

Identify as IEN - 6931

Increase in magnetic permeability in stainless steel that accompanies corrosion and overheating is employed in a new probe to test engine exhaust manifolds for weak spots subject to failure unless they are reinforced. American Instrument Company has developed the instrument particularly to check aircraft-engine manifolds in order to eliminate the old method of destructive hammering to locate a dangerously thin area.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6932

Waste Hours...or Work Hours in Your Plant?

CUT MATERIALS HANDLING COSTS 50% OR MORE!

Year after year, more and more companies have come to learn that Automatic "101" TRANSPORTERS cut their materials handling costs as much as 50% or more, while adding valuable man-power in man-hours saved.

"101" TRANSPORTERS are sturdy, too. To our knowledge every TRANSPORTER manufactured is still in service . . . and tens of thousands have been built.

FREE PROOF in Your Own Plant

to prove you can add man-hours without increasing workload of personnel!

But don't take our word for it! Put a "101" Transporter to the test . . . put it over the severest hauling hurdles in your own plant, absolutely free and without obligation! Write today and we'll arrange for your 5 days' trial. First come, first served. No obligation to buy . . . no strings attached.

"101" Transporter — A PRODUCT OF AUTOMATIC

Trade Marks Reg.

Automatic © 109 W. 87th Street, Dept. H-2, Chicago 20, Illinois

If you write maker identify as IEN - 6933

ONE for PLANT MAINTENANCE, for CRATING AND BOXING, for CONSTRUCTION WORK, for PATTERN SHOPS

DE WALT is A COMPLETE power shop

A De Walt is a complete power shop in one machine. It saws at any angle, it dadoes, routs, shapes, tenons, grinds, sands, drills, and even does light metal cutting. For one small investment, in money and in floor space, you get the equivalent of a warehouse full of cutting equipment. Write for catalogue to De Walt Inc., Dept. E-6, Lancaster, Pa.

DE WALT POWER SAWS

DE WALT INC., Lancaster, Penna. Subsidiary of American Machine & Foundry Co., New York

If you write maker identify as IEN - 6934

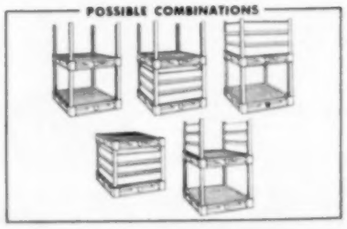
BUILD THE **exact type** OF PALLET OR MATERIALS HANDLING BOX **you need...**

This versatile unit is composed of three basic sections: (1) heavy-duty, 8-way entry pallet—made of sturdy welded sections, with deck of corrugated steel, (2) four strong corner stakes and (3) sides of heavy gauge corrugated steel, which slide in corner stakes. All parts fit snugly. Handled by either fork or pallet lift trucks, the Erect-A-Pallet is made in two sizes: 48" x 48" and 40" x 48". Carrying capacity: 4000 lbs.; tiering capacity; 16,000 lbs.

Phillips ERECT-A-PALLET

PATENT APPLIED FOR

POSSIBLE COMBINATIONS



MANUFACTURERS SINCE 1863 PHILLIPS MINE AND MILL SUPPLY COMPANY PITTSBURGH, PA.

MATERIALS HANDLING EQUIPMENT

2300 JANE STREET • PITTSBURGH 3, PA.

If you write maker identify as IEN - 6936

MERCURY SWITCHES by MERCOID

Assure Accuracy, Positive Operation and Long Life

TILTING TYPE MERCURY SWITCHES

The original method consisting of a simple tilting movement for opening and closing the circuit is still largely the basis of operation in most mercury switch applications.

Figure 9-51 (illustrated—one of the most popular types) is a mercury to mercury contact switch. One electrode terminates in a pool of mercury within a cup of high temperature refractory material. The other electrode is submerged in the main body of mercury, and as the switch is tipped, these two pools of mercury join and close the circuit. Even when operated very slowly, the contact opens or closes with a positive and instantaneous action as the mercury joins or divides. The electric arc is confined to the lip of the high temperature refractory cup, so that no deterioration can occur.

Further information sent upon request.

THE MERCOID CORPORATION • 4217 BELMONT AVE. • CHICAGO, ILL.

If you write maker identify as IEN - 6937

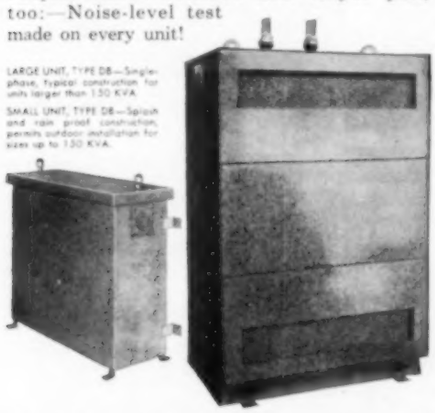
Cut costs . . . save space . . .

WITH

UPTEGRAFF Dry Type TRANSFORMERS

Easy to Install
Economical
Dependable

Uptegraff Dry Type Transformers are lightweight, easy to install, do not require special vaults, are safe and dependable. Made in all commercial sizes from 0.1 to 2500 KVA, single- or three-phase. Fireproof class B insulation used. They're quiet, too:—Noise-level test made on every unit!



LARGE UNIT, TYPE DB—Single-phase, typical construction for units larger than 150 KVA.

SMALL UNIT, TYPE DB—Splash and rain proof construction, permits outdoor installation for sizes up to 150 KVA.

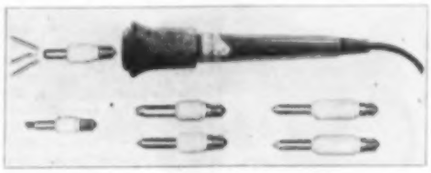
Makers of: POWER • DISTRIBUTION • INSTRUMENT AND SPECIALTY TRANSFORMERS

R. E. UPTEGRAFF MANUFACTURING CO.
THOMAS STREET . . . SCOTTDALE, PENNSYLVANIA

If you write maker identify as IEN - 6939

SOLDERING . . Small electric iron, 20 and 40 watt interchangeable tips

Source: UNGAR ELECTRIC TOOL CO.
609 Ducommun St., Los Angeles 54, Calif.



Heads contain heating elements

Model 776 designates new design of the company's pencil type soldering iron. A cork sleeve at the nose end now holds the tip up from contact with a surface when the iron is put down. A reinforcing sleeve at the rear end protects the electric cord. A new 20-watt tip assembly, known as Elkaloy Tiplet, takes three interchangeable tips.

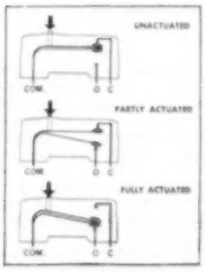
These are now in addition to the previously developed line of tips, also shown in the illustration. One of these units forming a chisel-shaped end at an angle with the axis is employed to heat-cut plastic sheet materials rather than for soldering. It is shown at the lower left.

Model 335 tips rate 20 watts and are available in pencil, offset and chisel designs. Model 1235 tips are in the same three shapes and rate 40 watts. Overall length of the iron with a tip in place is 7½ inches. Weight is negligible.

If you write maker identify as IEN - 6940

SWITCH . . Sensitive snap acting, make before break, 10 amp., 110 volt ac.

Source: MICRO SWITCH
30 E. Spring St., Freeport, Ill.



For overlapping action

Type BZ-2G is a make-before-break snap-acting switch that has been supplied by the company to a limited number of users over the past four or five years. It is now offered for general use in applications requiring its particular type of action. This action is shown in three illustration diagrams.

In the first unactuated position the two moving contacts of the single-pole double-throw mechanism are in closed position for the normally-closed circuit. In the next diagram the plunger has been depressed just far enough to snap the lower contact over to the normally-open side so both circuits are in closed position. In the third diagram full actuation of the switch is shown with the contacts down so the normally-open circuit is now closed. Releasing the switch plunger reverses the sequence for the make-before-break action.

Assembly is in a plastic housing in design similar to other switches in the company's line. Overall dimensions are about 2 by ¾ by ⅞ inch. Action must not be faster than 1 ips. at the switch plunger. Various types of actuator include plungers, leafs, roller leafs, levers and roller levers.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6941

MAN SAVER

Sweeps up to 400% faster than costly pushbroom cleaning . . . saves money . . . saves manpower

A Parker Floor Sweeper saved $2100 a year for a food manufacturer — $520 a year for a lumber yard—75% of all sweeping costs for a building material manufacturer. *You, too, can save.*

Sweeps all type floors. Collects and sweeps in one operation. Easy to empty. A money-saver for any plant from small garage to large factory or warehouse.

Now available — information file containing time studies, case histories, and full details. *Write, wire, or telephone today.*

FACT FILE AVAILABLE

PARKER INDUSTRIAL FLOOR SWEEPER

PARKER SWEEPER CO., 33 Bachtle Ave., Springfield, Ohio

If you write maker identify as IEN - 6942

UNIVERSAL STANDARD COLLET CHUCKS

tools can't slip
tools run true

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 6, MICHIGAN

162-A

If you write maker identify as IEN - 6943

- SAVE HANDLING TIME
- AVOID CONFUSION
- FACILITATE STORAGE

The MHS Work Carrier is a sturdy, flexible device for the transfer, storage or shipment of work parts or sub-assemblies. Stacked vertically, by means of the nesting plugs at the corners, these units constitute a rigid storage bin structure. Mounted on casters, they serve as factory trucks for the transfer of parts between processes. They are easily handled by the conventional lift truck or crane.

Write for Catalog R 2 for detailed specifications.

Mechanical Handling Systems, Inc.
6605 NANCY AVE. • DETROIT 12, MICH.
Offices in Principal Cities

If you write maker identify as IEN - 6944

Another

FIRST by ARO

Instant PUSH-BUTTON Reverse

A REVOLUTIONARY SCREW DRIVER AND NUT SETTER

ARO's new push-button valve means *instant reverse action* . . . no need to remove from work . . . no stopping to turn levers . . . no wasted time.

Adjustable clutch (available with positive clutch) Length 7-11/16" . . . outside diameter 1-5/16" . . . weight 1.4 lb.

This outstanding tool must be seen in action to appreciate its amazing action. Write for literature.

The Aro Equipment Corporation, Bryan, Ohio.
Aro Equipment of Canada, Ltd., Toronto

ARO AIR TOOLS Also . . . LUBRICATING EQUIPMENT . . . HYDRAULIC EQUIPMENT . . . AIRCRAFT PRODUCTS . . . GREASE FITTINGS

If you write maker identify as **IEN - 6945**

Now! Spray heavy red lead direct from original containers!

with Alemite VERSATAL PUMPS

Steel fabricators approve this easier, faster method of applying protective red lead coating *right in their storage bays*. Find it far thriftier, too! A single Alemite Versatal Pump—out of the way—out of the working area—serves many Spray Guns. Delivers the heaviest coating through hundreds of feet of pipe or hose. Pumps direct from original paint drums. Refills without shutdown. Eliminates fire hazards, waste and mess.

FREE BOOKLET! Gives all the details for using and taking full advantage of this new material handling equipment. Get your copy now. Address: Alemite, Dept. B-62, 1630 Diversey Parkway, Chicago, 14, Ill.

SW ALEMITE Versatal

If you write maker identify as **IEN - 6946**

new metallizing gun cuts machine repair costs 85%-90%

Salvaging worn feed roll journal for textile mill

40% faster than older models; produces uniform coatings with minimum operator attention.

The new METCO Type 4E Gun makes metallizing easier to use and a bigger money-saver in industrial maintenance than ever before. With the older types of metallizing guns, constant operator attention was required to maintain oxygen and gas pressures within a close range to obtain uniform coatings. Now, with this new gun, gas pressures are automatically balanced against all normal variations. So little operator attention or skill is required that the gun almost runs itself.

In addition to this advantage, the METCO 4E Gun sprays up to 40% faster than older models. Wire feed is controlled automatically for any wire size from 20 B&S gauge to ¼ inch, in any metal. Add to these advantages, the recent development of the new metallizing material, Sprabond Wire, which bonds itself to smooth steel surfaces without any mechanical preparation except cleaning. It serves as the perfect preparation coating for spraying with any other finished metal.

repair costs run as low as 10% of replacement cost

Metallizing gets worn parts like these back in service faster and at lower cost than any other method of repair:

Air Compressor Parts	Patterns
Armature Shafts	Pistons
Axle Shafts	Piston Rods
Camshafts	Plungers
Crankshafts	Pump Packing Sleeves
Cylinder Liners	Pump Plungers
Fan Shafts	Roll Journals
Hydraulic Rams	Rolls
Impellers	Spindles
Journals	Squeeze Rolls
Lathe Beds	Turbine Shafts

The following names are the property of Metallizing Engineering Co., Inc.: METCO*, SPRABOND WIRE. *Reg. U. S. Pat. Off.*

METALLIZING ENGINEERING CO., INC.
38-13 30th STREET · LONG ISLAND CITY 1, N. Y.
In Great Britain: METALLIZING EQUIPMENT COMPANY, LTD. Chobham near Woking, England

R. J. McWaters Metallizing Engineering Co., Inc.
38-13 30th Street, Long Island City 1, New York

☐ Please send me more information about the new Type 4E Metallizing Gun.

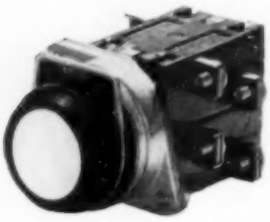
☐ Please arrange a demonstration in our shop.

NAME _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

If you write maker identify as **IEN - 6948**

SWITCH . . Oil tight pushbutton is color coded, for machine application

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



Color identifies circuit

Single pole, double throw contacts in silver-plated double-break design are assembled in a Melamine contact block to form one portion of this new "building block" pushbutton switch. The block mounts back of an operator that is available in a number of designs to include standard pushbutton, extra long pushbutton, mushroom head button, six forms of selector operator, two forms of combination units, a padlock unit and a cylinder-lock unit. The buttons themselves are neutral colored. Identification is provided by a color ring that threads into place around the button. This ring is available in permanent shades of black, green, red, yellow and white.

The switch is available for operation on 110 to 550-volt ac. circuits and in 1 to 9-button station assemblies mounted in aluminum enclosures meeting JIC Specifications. Rubber gaskets employed in each switch unit to make it oil tight and to provide dust protection will not deteriorate with age or stick to the enclosure. The nameplate can be specified. Enclosure depth is about 3¼ inches. Other dimensions depend upon the number of stations in an assembly.

If you write maker identify as **IEN - 6949**

HANDLING . . Wheel mounted tank, motor driven pump for oils, coolants

Source: W. R. CARNES CO.
452 S. Main St., Dept. M, Verona, Wis.

To put and take

The tank on this new Model 110-R-4 oil-handling equipment can be discharged into a sump or container or the motor-driven pump can be employed to pick fluids from containers and deliver them into the tank. Direction of flow is determined by the setting of a four-way valve. The discharge hose is fitted with a trigger-operated nozzle. The standard unit rates 75 gal. and is mounted on 12-in. semi-pneumatic rubber-tired wheels as shown in the illustration.

Identify as **IEN - 6950**

Circular welds can be made by the Unionmelt process with the aid of a new air-operated rotating-table fixture according to Union Carbide and Carbon Corporation. An air chuck holds the work. A pneumatic cylinder moves the welding head to working position. The fixture is available to meet requirements of specified work.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 6951**

SOUNDLY ENGINEERED . . .

PRECISION-BUILT

Leach RELAYS . . .

not only meet, but surpass the most stringent requirements!

Always the goal at *Leach* has been to design and manufacture relays that achieve the maximum degree of performance.

Nearly four decades of leadership in providing a complete line of relays for a multitude of applications.

FOR BETTER CONTROLS THROUGH BETTER RELAYS
—Specify Leach

LEACH RELAY CO.

5915 AVALON BOULEVARD, LOS ANGELES 3, CALIFORNIA
Representatives in Principal Cities of U. S. and Canada

If you write maker identify as **IEN - 6952**

HE'S LOOKING FOR TROUBLE!!!

Your Lustra Man will shoulder your lighting problems . . . and save you money, too!

TODAY, over a hundred thousand stores, plants and institutions are getting better lighting at lower cost. This new way of buying lighting is available only through your local Lustra Man.

You'll find him conscientious and thoroughly qualified to solve practically any lighting problem with the complete quality line of Lustra Double Duty Lamps and Fluorescent Tubes.

Simply write us and we'll have your Lustra Man call on you, or phone you for an appointment. Lustra Corporation, Dept. P-6, 36 Washington St., Brooklyn 1, N. Y.

Lustra

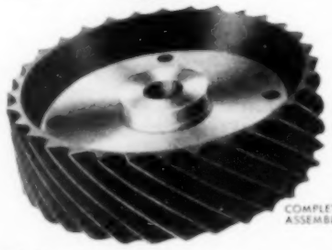
AMERICA'S DATED LAMPS

DOUBLE DUTY REFLECTOR LAMPS, INCANDESCENT LAMPS, FLUORESCENT TUBES, SPOTLITES AND FLOODLITES, RUGGED DUTY LAMPS, FLUORESCENT FIXTURES AND STARTERS

If you write maker identify as **IEN - 6953**

NEW "T-61" UNIVERSAL HUB CONTACT WHEEL by CARBORUNDUM

EXPLODED VIEW



COMPLETE ASSEMBLY

WHAT New "T-61" Hub Wheel can cut your contact wheel replacement costs squarely in half.

HOW Three part, simple assembly . . . Universal Hub and Side Plate — "T-61" serrated rubber "tire". When "tire" wears out, throw it away and replace with new tire at half the cost of entire new wheel.

WHY Perfect interchangeability. A single Hub will take 144 different tires of various width-and-hardness combinations. Each part of assembly is separately balanced — positive, perfect performance in any combination of Hub, tire and plate.

WHERE Everything from the roughest stock removal grinding to the finest flat or contoured surface finishing.

WHEN Right now! Switch to this new cost-cutter today . . . get in touch with your CARBORUNDUM or distributor salesman — or write Dept. IEN 82-69.

Look to CARBORUNDUM
TRADE MARK
for the NEW developments in ALL abrasive methods

"Carborundum" is a registered trademark of The Carborundum Company, Niagara Falls, N. Y.

If you write make identify as IEN - 6955

ALL PEERLESS MOTORS ARE "Peerless-Registered"

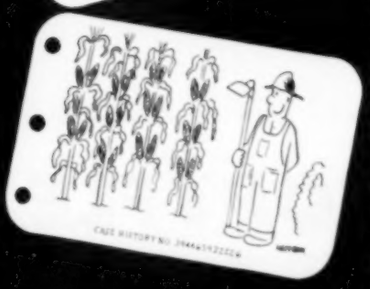
MORE than 90% of all Peerless Motors are custom manufactured to meet the specific operating requirements of the equipment with which they are to be used. So we "Peerless Register" every motor before shipment. The words "Peerless Registered" are a trademark, recorded in the U. S. Patent office. Only Peerless Motors can bear this phrase, and only Peerless Motors offer you this protection. This registration record is assurance to both you and your customer that the Peerless Motor has been properly designed for your equipment so as to give best possible performance and long, satisfactory service. And the registration record makes possible the quick identification of any Peerless Motor—anywhere.

THE PEERLESS ELECTRIC CO., WARREN, OHIO
Manufacturers of Quality Motors Since 1893
Single Phase • Polyphase • Direct Current • ¼ to 15 H.P.

Peerless-Electric MOTORS-FANS-BLOWERS

If you write make identify as IEN - 6956

INGENUITY can solve any problem



if YOUR PROBLEM involves the higher production of threaded parts

HY-PRO TAPS can help you to a solution

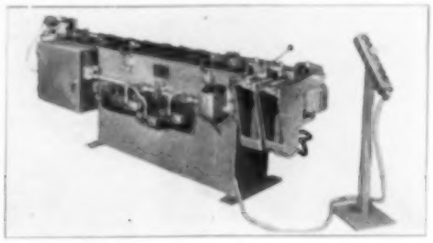
HY-PRO TOOL CO.
NEW BEDFORD, MASS. U. S. A.
Subsidiary of Continental Screw Co.

Order from your distributor or call the HY-PRO SALES ENGINEER

If you write make identify as IEN - 6958

BENDING . . Hydraulic machine for production use on pipe and tube

Source: PINES ENGINEERING CO.
638 Walnut St., Aurora, Ill.



Particularly for production use

Interchangeable turrets to control angle of bend and interchangeable stop assemblies for bend location apply at the working end of this new Air Craft tube-bending machine. The arrangement permits setting up both turret and stop assemblies for repeat work on production runs and then removing them without changing their setting to position others for additional quantity runs. Hydraulic control valves are panel-mounted at the side of the housing and a new push-button control panel has been added to enable the operator to stop, start or reverse the cycle at any given point.

The mandrel, the clamping die, the pressure die can be operated in automatic sequence or independently. A work piece can be formed, checked and replaced in the machine for an additional two or three degrees of bending while an initial set-up is being made for a production run.

The machine occupies floor space measuring 33 by 130 in. and takes a tube to 7 ft. in length over its mandrel. Base extensions can be provided for longer work. Maximum standard radius adjustment is 10 inches. The machine will handle 16-gage steel tube to 1 in., extra-heavy pipe to ¾ in., nonferrous metal tube with wall thickness to 0.134 in. and diameter to 1¼ inches. Power is provided by a Vickers hydraulic pump and direct-connected 5-hp. motor.

If you write make identify as IEN - 6959

SHEARING . . Portable hydraulic tool rates 50 ton, cuts 1¾ in. wire rope

Source: MANCO MFG. CO.
Grove & West, Bradley, Ill.

Cuts through in 7 seconds

Model 15 Guillotine is a new size in the company's line of portable hydraulic shearing tools, previously described IEN-424-50. The tool latches open and the head hinges back for work insertion. Then it is returned, locked and the operator either opens a valve in an air hydraulic pump or starts a motor-driven pump to apply cutting pressure. The shear blades are removable for sharpening. The frame is made of steel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write make identify as IEN - 6960

benchmaster ECONOMY PROVED AGAIN!

5 Benchmasters COST LESS THAN 1!

One operator used his Benchmaster press for all 5 stages of a forming operation. Die changes and set-ups proved costly—both in time and lost production. NOW—5 Benchmasters do the same job, each handling a separate stage. Tooling is never changed or removed. Savings in time and extra output have paid off the entire cost and continue to pay a high dividend on a low investment!

There's a low-cost Benchmaster for every requirement—1 Ton, 4 Ton, 7½ Ton and Deep Throat models. Write for literature or see your dealer.

benchmaster
PUNCH PRESSES AND MILLERS
1835 W. Rosecrans Ave.
Gardena, Calif.

World's largest manufacturer of small punch presses and milling machines.

If you write make identify as IEN - 6961

CUTTING COSTS WITH ALLMUL

"B&W ALLMUL Firebrick has 6 times the life plus..."

Replacing super-duty firebrick in a cupola front-slagger of a malleable duplexing operation three times a week was an expensive chore. B&W Allmul in the same location lasts approximately six times as long. Costs drop, too, because of savings due to less frequent relining.

Bulletin R-29 gives all the facts on B&W Allmul. Write for your copy.

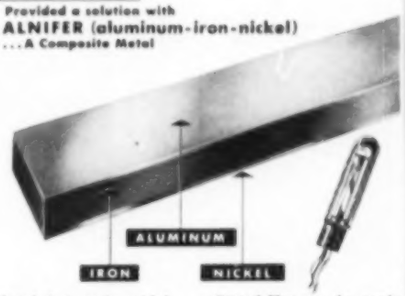
Bulletin R-29 gives all the facts on B&W Allmul. Write for your copy.

THE BABCOCK & WILCOX CO.
Refractories Division
GENERAL OFFICES: 161 EAST 42nd ST., NEW YORK 17, N. Y.
WORKS: AUGUSTA, GA.

If you write make identify as IEN - 6962

PROBLEM:
How to replace the use of pure nickel in close-spaced tubes

GENERAL PLATE
Provided a solution with
ALNIFER (aluminum-iron-nickel)
...A Composite Metal



With today's increasing nickel shortages, radio tube manufacturers are faced with a problem of how to extend their nickel allotment.

General Plate has already made available ALFER, iron clad with aluminum on both sides . . . a composite metal which is used in receiving tube parts. However, the use of this composite metal is not satisfactory for certain tube types which have closely spaced parts.

General Plate engineers solved this problem with ALNIFER, iron clad with aluminum on one side and nickel on the other.

General Plate can also supply NIFER, nickel-iron-nickel composite metal, for use where other materials are not satisfactory.

No matter what your problem, it will pay you to consult with General Plate. Their vast experience in cladding precious to base metals, or base to base metals can overcome your problems . . . often reduce costs.

GENERAL PLATE
Division of Metals & Controls Corp.
76 Forest St., Attleboro, Mass.

If you write make identify as IEN - 6963

New Way to Cut Costs of Railway Car Handling!

SEND FOR THIS FREE BOOK

Get complete information on the Trackmobile . . . today's answer to low cost railway car handling. It operates on road and track—has a draw-bar pull equal to that of a 20-ton locomotive and is priced at a fraction of the cost of conventional-type plant locomotives. Speed hauling, save time, reduce costs now—write for Bulletin TM-101.

WHITING CORPORATION
15629 Lathrop Avenue • Harvey, Illinois

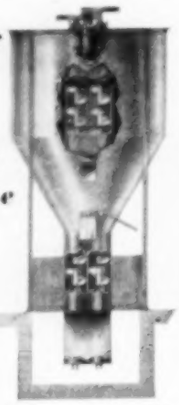
WHITING TRACKMOBILE

If you write maker identify as IEN-6964

• two times faster

• a better mix

• less floor space



Blue Streak
TWO-SPEED
TWIN SPIRAL
MIXER

This compact mixer provides high capacity production with a saving in floor space and time.

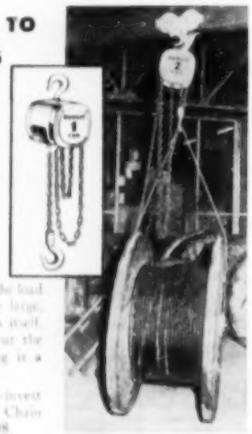
Its faster, more accurate blending is assured through the use of two-speed twin spirals. Mixing is complete and uniform in half the time, resulting in a product of constant quality at lower cost. Sturdy construction provides the added factor of dependability under all work loads. Write now for full information.

PRATER

PRATER PULVERIZER COMPANY
1536 S. 55th Court • Chicago 50, Ill.

If you write maker identify as IEN-6965

GETS AROUND TO SPEED LIFTING



The ¼ ton 'Budgit' Aluminum Chain Block weighs only 29 lbs. Other sizes—½, 1, and 2 tons—are also light to carry, hang up and easy to use for spot-lifting anywhere.

The portable 'Budgit' Chain Block works fast. A chain pull of only 65 lbs. lifts 1 ton. Two sets of teeth in each gear carry the load—lifting is smooth. The large, powerful load brake adjusts itself. No ordinary hookup can cut the load chain. Every fastening is a strong strine.

Get years of safe service—invest in the economical 'Budgit' Chain Block. Send for Bulletin 198.

'Budgit' CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC.
Muskegon, Michigan

Subsidiary: "Stow-Bar" Crane, "Budgit" and "Load-Lifter" Hoists and other lifting equipment. Makers of "Ashcroft" Gauges, "Hancock" Valves, "Consolidated" Safety and Relief Valves, "American" Industrial Instruments.

If you write maker identify as IEN-6966

HUOT

DRILL DISPENSER

Eliminates Rummaging Through Stacks of Drills

No more running out of drills—your entire stock can be seen at a glance. Each size of drill has its own compartment with rounded bottom for easy selection. You can store dozens of small drills and several large ones in their own compartments. Built-in pricing or inventory system eliminates the need for cost sheets, and will keep a record of drills on hand. *Specifications:* 14½" long, 7¼" high, 7¼" deep. Hammerlin baked enamel finish over rugged steel.

Made in three models for fractional, number or letter drills

Write for Circular

HUOT MANUFACTURING CO.
"HUOT" is pronounced "NEW-IT"
565 No. Wheeler St., St. Paul W4, Minn.

By the makers of HUOT DRILL INDEX

If you write maker identify as IEN-6967

TESTING . . Door for screen room for interference free electronic test

Source: ACE ENGINEERING & MACHINE CO.
3642-46 N. Lawrence St., Philadelphia 40, Pa.

Ask for screen room literature

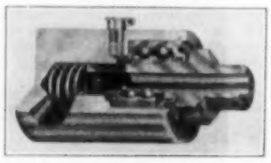
New access door is now available for the company's test enclosure, known as a screen room, in which electronic equipment can be tested in surroundings free from electrical interference. The door can be placed at any desired location on the structure to permit transfer of materials in and out of the room without unfastening and opening the large entrance doors. Construction is the same as for the entrance door with double shielding and serrated bronze contact strip design.

Standard sizes range from 16 by 16 in. to 24 by 24 inches. Other sizes are available on special order. The screen room itself, previously described IEN-5647-50, is built in a range of shapes and sizes for erection on the job. Standard attenuation is 100 db. or higher from 0.15 to 10,000 mc.

If you write maker identify as IEN-6968

PIPE FITTING . . Rotary joint connects stationary and rotating lines

Source: WICHITA FALLS FOUNDRY & MACHINE CO.
305-9 Barwise, Wichita Falls, Texas



Ball bearing takes load

Grit and sand are excluded from the bearing and sealing surfaces of this new design in the company's Roto-coupling line by means of a felt ring. The ring also holds lubricant fed in through a cup in the housing for distribution over the sealing surface. An O-ring permits the carbon ring at the center of the assembly to move forward freely by the action of its backing spring as wear occurs.

The assembly is mounted on a double row ball bearing that is protected by a labyrinth seal. The steel stem is Parkerized and hardened. Its sealing surface is ground and lapped. Sizes are ¼ and ½-in. pipe with a ⅝ and 1-in. thread on the stem.

Identify as IEN-6969

No trouble at all to make a square true layout on a large area when you use the new Barrows Porcelain Enamel Company's squared-up layout paper. It is a sheet of kraft-type paper imprinted with dotted lines on 1-in. centers, dash lines to indicate 6-in. squares, dots for quarters and halves. A 1,000-ft. roll, 49 in. in width, is $21.50 at the factory in Cincinnati. An 8 by 10-in. sample will come to your request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6970

NEW! Cut your tooling costs

Install Chromaster Industrial Chrome Plating Unit in your own plant

There's reason after reason for installing Chromaster.

This simple, fast, low-cost industrial chrome plating process can mean dollar savings to you in increased production, minimized set-up and downtime on your machine tool operation. Normal tool life of your cutting tools and wear parts can be multiplied three to ten times by this new method of chrome plating production tools right in your own plant.

Compact, self-contained units can be operated at amazing speed—3½ minutes for the average job. There's a size Chromaster to fit the needs of every shop.

Send today for complete facts on industrial chrome plating with Chromaster.

Chromaster

INDUSTRIAL CHROME DIVISION
WARD LEONARD ELECTRIC CO.
33 South Street, Mount Vernon, N. Y.

If you write maker identify as IEN-6971

TO CLEAN YOUR DIE MOLDS..

Moisture, oil and foreign matter completely removed from air lines by patented one-piece separator and eliminator chamber.

Does not waste air by continuous venting. Positive, automatic, effective for paint sprays, sand blasting, etc.

R & I E EQUIPMENT DIVISION
I-T-E CIRCUIT BREAKER CO.
GREENSBURG, PENNSYLVANIA

If you write maker identify as IEN-6972

NEW!

THE
COPYFLEX
"30"

High Speed—Low Price—Premium Prints

Here, for the first time, is a copying machine—Bruning's Model "30" COPYFLEX—that combines such a *high speed* with such a *low price* and such *premium quality*, ready-to-use prints.

The "30" is ideal for the drafting room or office with medium volume requirements and a moderate budget. It handles cut sheets or roll stock up to 42 inches wide, and offers features ordinarily found only in larger, more expensive machines.

With the "30" and the unsurpassed line of sensitized COPYFLEX papers, cloths and films, you can always get exactly the kind of premium quality prints you want, when you want them.

See how COPYFLEX "30" can save your time, cut your costs. Write for Booklet A-2030 to CHARLES BRUNING CO., INC., Dept. B62, Teterboro, N. J.

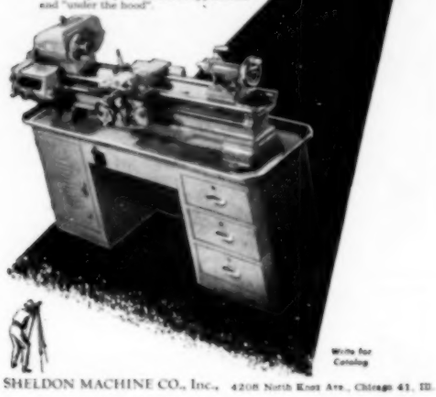
BRUNING
Specialists in copying since 1897

If you write maker identify as IEN-6974

SHELDON
CHICAGO

A better Lathe from any angle

Judge it from any angle: for accuracy, stamina, rigidity or capacity (for size). Check its component parts—its spindle, spindle bearings, lead screw, apron, carriage, bed, gearing, or the power delivered by its drive—you will find the SHELDON Lathe a quality tool both in appearance and "under the hood".



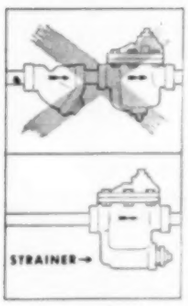
Write for Catalog

SHELDON MACHINE CO., Inc., 4208 North Knox Ave., Chicago 41, Ill.

If you write maker identify as IEN-6975

NEW
STEAM TRAPS WITH BUILT-IN STRAINERS SAVE YOU MONEY

TWO NEW ARMSTRONG MODELS ARE NOW AVAILABLE



NO longer need you install a strainer ahead of steam traps draining smaller sized equipment—urns, kettles, steamers, cookers, etc.—nor take a chance on unprotected traps clogging when dirt and scale conditions are bad.

New Armstrong Trap Model No. 880 for the smallest equipment, or No. 881 for slightly larger drainage requirements have the strainer built right in the trap body. A separate strainer, extra fittings and considerable installation labor is thereby eliminated. Look over your small trap applications and order the traps you need now from your local Armstrong Representative's stock.

ARMSTRONG MACHINE WORKS
888 Maple Street, Three Rivers, Mich.

SEND FOR THE STEAM TRAP BOOK

Learn Why Armstrongs Save Fuel, Get Equipment Hotter, Faster, Save Labor and Time.

If you write maker identify as IEN-6977

TRUCK . . Engine driven fork lift, 72 to 120 in. load height, 1½ ton

Source: BUDA CO.
15401 S. Commercial St., Harvey, Ill.

Operator is protected

Model FT30-15 is a new 1½-ton unit with 49-hp. gasoline engine in the company's line of power-lift fork trucks. A companion Model FTD30-15 is the same assembly with one of the company's diesel engines. Transmission is through an 11-inch clutch. Control centers at a single lever-operated gear shift mounted on the central steering column. The 1½-ton load rating is based on 15-in. load centers in standard arrangement.

If you write maker identify as IEN-6978

ELECTRIC WIRE . . For magnet use in temperatures to 250 deg. C.

Source: SPRAGUE ELECTRIC CO.
344 Beaver St., North Adams, Mass.

Details in Bulletin 404

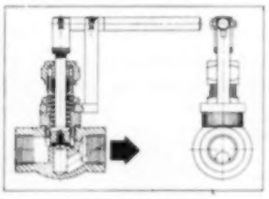
Ceroc-ST is a new high-temperature magnet wire in which the previously developed Ceroc-200 ceramic-insulated copper conductor is protected by a single Teflon overlay. The new wire is intermediate in properties and performance between Ceroc-200 silicone-ceramic wire and Ceroc-T with its double Teflon outer layer. It is medium gray in color and is smooth and free from imperfections.

AWG sizes are from No. 16 to No. 44 in which the bare wire ranges from 50.8 down to 2.0 mils in diameter. The largest, No. 16, makes 126 ft. per pound of the insulated wire. The smallest, No. 44, makes 73,500 feet per pound.

If you write maker identify as IEN-6979

VALVE . . Lever operated globe, ¼ to ½ in., stainless steel body

Source: ASSOCIATED VALVE & ENGINEERING CO.
1150-2 W. Marquette Road, Chicago 21, Ill.



Patented design

Series 1113 is a new spring-closed lever-opened valve to handle liquid or vapor at pressures to 150 lb. and temperature to 550 deg. F. The globe-type valve seats on a Teflon disc. The same material is used for the stem packing. Alloys other than stainless steel can be specified for the body and trim. Port diameter ranges from 0.205 to 0.375 in the ¼ to ½ in. valve sizes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-6980

NEWCOMER CARBIDE *Specialists* will gladly show you how to

WITH THE NEW GRADE **S-6** CUTTING CARBIDE

Highlights of the NEW S-6

S-6 Carbide is new and different — *industry-proven* on machining Armor plate, rough steel forgings and castings. Even though S-6 Carbide can be used at high machining speeds, its greatest tool life is obtained at speeds slower than those at which other grades of carbide can be successfully used. S-6 Carbide makes deeper cuts because it can be set for heavier feeds. S-6 Carbide, because of its extremly high strength, is excellent for interrupted cuts.

Write today for Catalog No. 108 which shows all other standard grades of Newcomer Carbides.

NEWCOMER PRODUCTS, INC.
General Sales Offices
PITTSBURGH 21, PENNA.
Plants at LATROBE, PENNA.

If you write maker identify as IEN-6981

New KRITZER
FIN-PIPE COIL CATALOG Available

Eight, clearly-written, well illustrated pages give you every fact necessary to select and install KRITZER FIN-PIPE COILS AND COVERS for Industrial, Commercial and Institutional steam or hot water heating.

Write For Your Copy Today
KRITZER RADIANT COILS, INC.
2901 W. Lawrence Ave., Chicago 25, Ill.

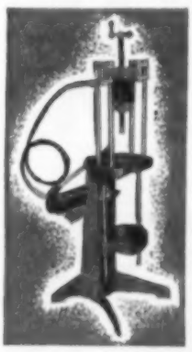
If it's Kritzer, it's right, Sir!!

If you write maker identify as IEN-6982

OTC 17½ TON HYDRAULIC
OPEN THROAT PORTABLE
PEDESTAL PRESS

ONLY $199.95

SAVES HOURS AND DOLLARS ON EVERY JOB



An unbelievable low price for this amazingly efficient Portable Pedestal Press and 17½ ton Power-Twin Hydraulic Puller . . . a must for every maintenance shop. Pays for itself on the first few jobs in time, tools and money saved.

Use it for pressing bearings, bushings, pins, for bending, straightening, compressing, spreading, etc. Move it where you want it—it's portable.

STRONG . . . will handle 90% of all pulling or installing jobs.

COMPACT . . . Base is only 20" x 21" — 34½" from top of press plate to floor. Press Plate throat is 7½" deep, 6" wide, 10½" clearance between uprights; 11" from Ram to press plate with almost unlimited vertical adjustment. Weighs less than 200 lbs.

VERSATILE . . . POWER-TWIN Hydraulic Unit may easily and quickly be detached for field service or other pulling jobs.

INEXPENSIVE . . dollar for dollar . . . ton for ton . . . the lowest priced, most rugged and efficient Hydraulic Press on the market.

See your jobber for complete information or write us.

OWATONNA TOOL CO.
371 CEDAR STREET • OWATONNA, MINNESOTA

If you write maker identify as IEN-6983

LOOK HERE!

FOR FASTENINGS THAT RESIST CORROSION

Here's a *bookful* of ready answers to your corrosion problems . . . the handy 56-page Harper Stock Book and Price List. It gives you information on all Harper Everlasting Fastenings—bolts, screws, nuts, washers, rivets and accessories in brass, bronze, copper, aluminum, stainless, Monel and other alloys—all products of America's leading manufacturer specializing in corrosion-resistant fastenings. Over 7000 items in stock and ready for delivery from warehouses and distributors, coast to coast!

This coupon will bring your copy!

HARPER
EVERLASTING FASTENINGS

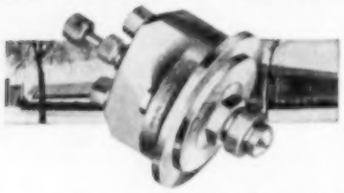
SPECIALISTS IN ALL NON-CORROSIVE METALS

The H. M. Harper Co.
8211 Lehigh Ave., Morton Grove, Ill.
Rush my copy of the Harper catalog.

Name.....
Company.....
Position.....
Address.....
City.....Zone....State.....

If you write maker identify as IEN - 6984

to the 99 plants in 100 who use SPRAY NOZZLES



WRITE FOR

In the search for doing things better and faster, have you overlooked the importance of spray nozzles? Your application may be commonplace or complex . . . but whatever it is, properly engineered spray nozzles can make a vast difference. Let Spraying Systems Co., America's foremost authority on industrial spray nozzles show you why and how. As a first step, write for catalogs.

SPRAYING SYSTEMS CO.
Engineers and Manufacturers
3208 Randolph Street
Bellwood, Illinois

Catalog No. 22
General Industrial Spray Nozzles
Catalog No. 23
Pneumatic Atomizing Nozzles

If you write maker identify as IEN - 6985

Save up to 40%

on the NEW Heavy Duty
Sturdi-bilt
WORK BENCHES

from $26.80 AND UP

Patented "Tension Bolting" and Mass Production Bring Costs Down

You can actually save up to 40%, and more on these basically new type work benches as compared to ordinary work benches. Exclusive, patented "tension-bolting" guarantees vibration-proof rigid frames. Mass production plus unique design enables us to offer better benches at considerably lower prices.

These benches have many uses—as work benches or tables in production shops, assembly lines or shop offices. Now used in leading defense and industrial plants (names on request). Available in two sizes (23" x 46½", 28" x 60") in choice of two tops (Heavy Duty and Standard) with two, one or no drawers, from *$26.80 up, f.o.b. factory, Quincy, Illinois. *Send for special illustrated folder giving complete specifications and prices.*

New HEAVY DUTY "Solid Core" Wood Tops

With highly compressed hardboard outside surface panels that are extremely resistant to abrasive wear and indentations. These panels are resilient, tough, warp-proof, splinter-proof, lacquered and waxed for oil and grease resistance.

OTHER FEATURES:

Include extra-heavy rolled steel frames, adjustable feet for uneven floors, easy-sliding drawers.

STURDI-BILT STEEL PRODUCTS, INC.
624 S. MICHIGAN BOULEVARD CHICAGO 5, ILLINOIS

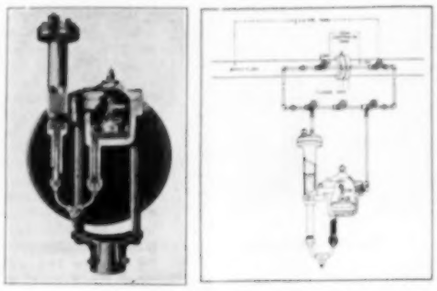
STURDI-BILT STEEL PRODUCTS, INC.
General Offices, 624 So. Michigan Boulevard, Chicago 5, Ill.
Please rush me brochure giving complete details about STURDI-BILT Steel Work Benches.

Name _____ Position _____
Company _____
Company address _____
City _____ Zone _____ State _____

If you write maker identify as IEN - 6987

METER . . Differential instrument measures and records flow in pipe line

Source: FOXBORO CO.
42 Neponset Ave., Foxboro, Mass.



Illustrated and detailed in Bulletin 460

Illustrated is a rear cut-away view of new Type-27 design in the company's line of differential-pressure flow meters. Major changes have been made in the float mechanism and the differential U-tube assembly. The new construction applies for a range of meters to operate at pressures maximum at 2,000 or 5,000 lb. and to provide differential ranges between 1 and 400 in. of water. The new design contributes to precision operation. It minimizes maintenance and protects against loss of mercury in the U-tube.

The spindle connecting the radial float arm to the indicating and recording mechanism now operates in a pressure-seal bearing which is lubricated at the factory to eliminate need for field attention. It is leak proof at working pressure, requires no mechanical adjustment. The bearing body and its associated parts are interchangeable. Spindle rotation is by ball-chain connection in a rack and gear arrangement provided by a length of stainless-steel ball chain and the spindle quadrant. The chain is secured tightly.

Mercury is retained in the U-tube by plastic ball-check floats completely submerged in the mercury in both legs of the tube. Stainless balls and seats will not clog or lock against change in either buoyancy or velocity. Metal-to-metal compression seals, tested for 10,000 lb. pressure, secure the U-bend at the bottom of the tube to the two tube legs. Replaceable seats in these connections are made of hardened stainless steel. There are no gaskets. At the bottom of the U-tube is a damping plug calibrated to assist in adjustment and designed for a full turn that opens a drain port pointing downward so the mercury can be emptied from the tube without spilling.

If you write maker identify as IEN - 6988

TAPE . . Red paper, self-adhesive for masking, wrapping, packaging

Source: CONTINENTAL TAPES
Box 501-A, Cayce, S. C.

Tensile strength
25 lb. per inch

Continental Red is a new general-purpose self-adhesive red paper tape with crepe or flat finish. It is available in ½ to 36 in. widths in 180-ft. rolls. It is packaged in multiple rolls the equivalent of 18 in. in width.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6989

YOU GET ALL 4 with DUSTUBE® dust and fume control

✓ High Efficiency.
✓ Simplicity of installation, operation and inspection.
✓ Low operating and maintenance costs.
✓ Rugged construction and long dependable service.

WRITE FOR NEW CATALOG NO. 72-B

American dustube COLLECTORS
WHEELABRATOR & EQUIPMENT CORP.
507 S. Byrkit St., Mishawaka Ind.

If you write maker identify as IEN - 6990

NEW SKINNER SOLENOID VALVE
EXPLOSION PROOF TYPE X5

THE new Skinner X5 Solenoid Valve is basically the same as the widely accepted and tested V5, but modified to a construction that is Underwriters' approved for Class I, Group D hazardous locations. Small size and lightweight features are retained, and the X5 is low in price because of the many parts which are interchangeable with other Skinner valves. Rating is 10 watts max.; soft, spring loaded seals prevent leakage; internal parts are stainless steel; wide variety of port locations in ⅛" and ¼" size; most types available for metering, for AC or DC in a wide range of voltages and frequencies; can be mounted in any position; supplied as two-way normally open or closed, three-way normally open, closed or directional flow. *Write today for details!*

SKINNER ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
134 Belden Ave., Norwalk, Conn.

If you write maker identify as IEN - 6991

HYDROSCALE SIMPLIFIES WEIGHING!

- Weighs as you lift the load to move it.
- Eliminates weighing station tie-ups.
- Models 500 to 200,000 pounds.

A COMPACT RUGGED CRANE SCALE OF HYDRAULIC ACCURACY

- 12", 24" and 30" dials
- Combination kilogram and pound dials
- Tilt face models for high level reading

Protects you against loss by making weighing easy and effortless. Encourages careful checking of materials in and out of plant and materials in process at production stages. Repeat orders from users in all types of industry testify to its usefulness and versatility.

Saves time in:
Receiving
Shipping
Inventory
Processing
Inspection

HYDROWAY SCALES, INC.
20632 W. 8 Mile Road, Detroit 19, Mich.

If you write maker identify as IEN - 6993

NEW EASY WAY TO OPEN WOOD BOXES and CRATES

USE Air-Speed PNEUMATIC SAW

To Cut Through The Nails Like This

SAVES TIME • SAVES TROUBLE
SALVAGES LUMBER

ALSO USE IT for sawing or filing metals, plastics, wood, wallboard, fibre.

One-hand operation. Weight only 3½ pounds.

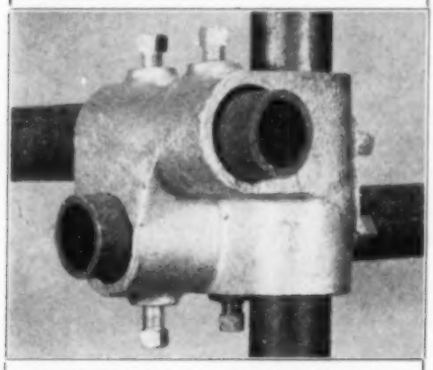
LIST PRICE $49.50 FOB Los Angeles

WRITE FOR LITERATURE

AIR-SPEED TOOL COMPANY
1502 W. Slauson Ave., Dept 652, Los Angeles 47, Calif.

If you write maker identify as IEN - 6994

MAKE YOUR OWN SCAFFOLDS WITH PIPE



MAINTENANCE AND CONSTRUCTION MEN ARE BUILDING

Safe, durable, adjustable, frame & rolling scaffolds to suit their desire and needs for all of their easy and difficult scaffolding jobs, with;

AMIDON FITTINGS
and standard pipe-pictures available

AMIDON ENGINEERING CO., ELYRIA 14, O.

If you write maker identify as IEN - 6995

"Skin-Cote protects hands from WET SANDING"

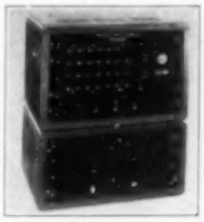
In a recent survey made by a large auto plant in a group of 15 wet sanders working on a hood sanding job, more than half of these men showed considerable irritation of the skin on the wrists and forearms. This group had not as yet been provided with a protective cream. In a second, but much larger group of wet body sanders who were provided with SKIN-COTE No. 3 protective cream, only one case of dermatitis had developed. As far as the plant hygienist could determine, both of these group exposures were of a like character. This company has now adopted SKIN-COTE No. 3 for all wet sanding operations throughout their plant....Send for eight-page catalog....

The BOYER-CAMPBELL COMPANY
6546 St. Antoine *Safety Division* Detroit 2, Mich.

If you write maker identify as IEN - 6996

TIMING . . Electronic counter divides second into 8,000,000 parts

Source: POTTER INSTRUMENT CO.
113-17 Cutter Mill Road, Great Neck, N. Y.



High speed in little pieces

Projectile velocity, frequency measurements as in telemetering, gas-tube and geophysical measurements, timing of camera shutters and relay contacts are representative applications for this new Model 470 Counter-Chronograph. It employs a 8-mc. crystal oven as the time-cycle generator with gating that limits error in a measurement to plus or minus 0.125 microsecond.

Results are exhibited on readout lamps in discrete numbers, in whole decimals from one microsecond up, in fractions down to 0.125 microsecond. The instrument recycles and an external mechanical register can be used to extend the count for intervals longer than one second. The neon lamps will continue to exhibit the count accumulated until the instrument is manually reset.

"Start" and "stop" pulses, derived externally from contact closure, photoelectric detector, or other means, alternately pass and block time-base oscillations in a series of counter dividers. These positive pulses define the interval to be measured and can be applied to a common or separate input. Lockout circuits prevent interference by subsequent pulses after the proper "start" and "stop" pulses have arrived.

If you write maker identify as IEN - 6997

EMBOSSING . . Roll type machine for vinyl sheet and coated fabrics

Source: JOHN WALDRON CORP.
P. O. Box 791-A, New Brunswick, N. J.

Detailed in Bulletin 1001

A plastic film or sheet is fed into this new embossing machine over an aluminum roller-conveyor section equipped with electric radiant heating elements. The sheet moves forward to a power-driven rubber spreader roll located at the entrance to the embossing nip to maintain web width and to eliminate wrinkles. At this point the sheet passes between the embossing roll and the rubber-faced matrix roll to take the embossing impression. It leaves the machine after riding two double-wall cooling drums.

The machine is available for web widths from 24 to 60 inches. It operates at 30 to 120 fpm. depending on film thickness which ranges from 0.025-in sheeting to 0.002-in film.

The embossing roll is bored for heating or cooling. The matrix roll is cooled by a water-mist vapor generated and delivered by means of compressed air acting upon a water supply. Embossing pressure is maintained hydraulically to a maximum of 10 ton. Control of all of the machine movements centers at a single lever at the operator's position.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6998

Every Man, Woman and Child in the U.S.A. Can Go Riding at the Same Time

In the U. S. A., competition is basically responsible for better cars at lower comparative cost. We enjoy the use of 3 times as many cars, and annually produce 4 times as many cars, as the rest of the world put together. Approximately 43 million autos, and 9 million trucks and buses, are in use in the U. S. A. today . . . more than enough to take everyone riding at once.

Our competitive system stimulates the sale of the new and the resale of the old. In most foreign countries people *must* make things last. In the U. S. A. vigorous competition prompts continuous progress, so that new-car buyers get maximum value and lowest-income groups benefit by lowered prices of used, yet useful, products. Result: a high standard of living for all. In most of the rest of the world only the rich enjoy luxuries. In the U. S. A., the irresistible drive of competition places most of the miraculous products within reach of all.

Free competition—like freedom of speech, press and religion—is a dynamic part of Uncle Sam's character. Let's keep it free!

This report on PROGRESS-FOR-PEOPLE is published by this magazine in cooperation with National Business Publications, Inc., as a public service.

THE COMPETITIVE SYSTEM DELIVERS THE MOST TO THE GREATEST NUMBER OF PEOPLE

If you write maker identify as IEN - 6999

KNOCKOUT BLOW!

DOWN time for your machinery is OUT time on your profit statement. To keep operation at peak efficiency, keep Dirt, Dust, and Grit out of every crack and crevice. Knock 'em out with a CLEMENTS-CADILLAC blower-suction cleaner—*regularly.*

Eligible under C.M.P. regulations

SAVE TIME · MONEY PREVENT DAMAGE TO MACHINERY WITH THE . . . .

Made in 5 models with attachments for every cleaning job.

PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS CADILLAC

CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE., CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

If you write maker identify as IEN - 7000

KLEMP Open Steel Grating "PATHS" speed maintenance!

Can be fitted into any area, at any height, to form a non-skid, self-cleaning, fireproof catwalk, walkway, or structural flooring "path" that gives quicker access to machinery. Permits free passage of light and air. Klemp Diamond Riveted Open Steel Grating comes pre-fabricated—cut to your specifications, ready to install. It contains more steel per square foot by weight...you can't find a stronger grating! Write today for our 24-page bulletin containing handy engineering data.

Ask about Klemp Hextool heavy-duty surface armor.

KLEMP METAL GRATING CORP.
Steel Flooring Specialists
6605 SO. MELVINA AVENUE • CHICAGO 38, ILLINOIS

If you write maker identify as IEN - 7001

standardize with standard HALLOWELL FOREMAN'S DESKS

HALLOWELL FEATURES

• Sturdy steel construction • Trim, attractive appearance • Smooth, splinter-proof writing surface • Easy gliding, ball bearing roller drawers • No protruding handles to catch or tear clothing

Standardized steel desks, with standard unit accessories, pay dividends in convenience and flexibility. As your requirements change, you simply add extra drawers, shelves, pigeonholes, etc. Write for descriptive literature. STANDARD PRESSED STEEL CO., Jenkintown 14, Pennsylvania.

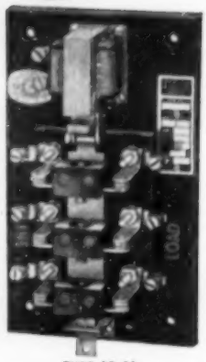
HALLOWELL SHOP EQUIPMENT DIVISION
JENKINTOWN, PENNSYLVANIA

sps

If you write maker identify as IEN-7002

NEW ZENITH MAGNETIC SOLENOID CONTACTORS

★ SOLENOID OPERATED
★ FINE SILVER CONTACTS
★ SIMPLIFIED WIRING



TYPE SC 33

This ZENITH Contactor is built to withstand the severe service demanded by loads based on Type-C lamps.

It is designed on the straight-line principle, with the solenoid being connected directly to the contact bar.

The advantage of this method of construction is its easy access to any part for quick inspection or service, without disturbing other parts.

Models: Size 1 - 25 amps. Size 2 - 50 amps.

Either size can be supplied in any number of poles.

SEND FOR FREE CATALOG

This big, illustrated catalog contains all the newest items in automatic control equipment made by Zenith. Write now for your copy!

ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

If you write maker identify as IEN-7003

BALMASEPTIC

Combines the fine qualities and delightful scent of Dolge premium BALMA liquid soap with Hexachlorophene, the antiseptic agent used in modern surgical soaps. Regular washing with BALMASEPTIC not only cleans thoroughly but deposits on the skin a non-irritating film which reduces bacteria as much as 95%. Here's a true deodorant for shower as well as wash-up use, insuring "round-the-clock freshness."

Efficient dispensing equipment available. Ask your Dolge Service Man for demonstration.

dependable DOLGE
WESTPORT, CONNECTICUT

If you write maker identify as IEN-7004

You need this Carey Reference Manual

for Asphalt
Asbestos • Magnesia Products

Send today for your FREE copy of this new Carey Reference List. It's designed to save you time in matching products to specifications—and vice versa. No industrial executive, designer, engineer or architect should be without it. Just fill in coupon and mail today for your FREE copy. No obligation!

THE PHILIP CAREY MFG. CO.
CINCINNATI 15, OHIO.

Carey

The Philip Carey Mfg. Co.,
Cincinnati 15, Ohio, Dept. IE-6

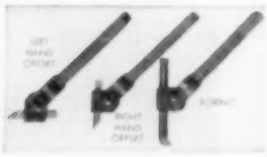
Gentlemen: I want a FREE copy of the Carey Reference List for Asphalt, Asbestos and Magnesia Products.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

If you write maker identify as IEN-7005

LATHE TOOLS . . Adjustable holder takes tool bits or a boring bar

Source: WALTON CO.
Box 305, Hartford 10, Conn.



$4.25 to $9

Four sizes are included in the company's new Walton-American line of adjustable tool holders on which the company announces acquisition of manufacturing and selling rights for the holder previously produced by American Stay Company. The smallest unit in the line takes 1/4 to 3/16-in. round or square bits or bars. The largest takes 5/16 to 7/16-in. round or square.

The swivel head can be positioned for straight, right-hand or left-hand offset positions. It grips the bit top and bottom, holding so no lateral movement is possible. At the same time the gripping jaws will not break high-speed tool bits or Stellite. Each holder is individually boxed with a Billings 15-deg. single-head box wrench.

If you write maker identify as IEN-7006

BEARING . . Sealed ball design is interchangeable with non-sealed

Source: S K F INDUSTRIES INC.
P. O. Box 6731-A, Philadelphia 32, Pa.

Trade named
Red Seal

The company announces availability of its new Red Seal bearing as a unit for built-in assembly in addition to its application in a pillow block previously described IEN-3528-52. The new bearing is available in standard single-row SAE widths with desired combination of snap ring and metal shielding. It is factory lubricated prior to completing the sealed assembly.

The seal extends below a steel retaining ring forming a flexible lip which touches lightly on a smooth uniform chamfer of the bearing's inner ring. The retaining rings have circular formed ribs for rigidity and are staked into position. The seal is made of DuPont Fairprene which is not subject to attack by petroleum-base lubricants, normal operating temperatures or aging in storage or service.

If you write maker identify as IEN-7007

PROTECTING . . Plastic goggle to stop airborne dust and particles

Source: WILLSON PRODUCTS INC.
217 Washington St., Reading, Pa.

Vinylite is molded to form the single-piece transparent frame of this new No. 91 Mono-Goggle. It conforms to any facial contour and includes means to retain the single-piece 0.060-in. acetate lens. Weight is a little over 1 ounce. Application can be made over prescription glasses.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

If you write maker identify as IEN-7008

NEW! IMPROVED!
"Columbia-Quality"
WIREWAYS
AND AUXILIARY FITTINGS

Gray Enameled or Aluminum Sprayed

Elbow

IMMEDIATE SHIPMENT FROM STOCK

Tee

Closing Plate

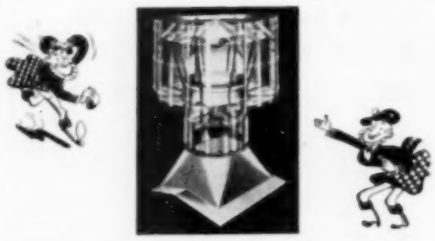
UNDERWRITERS' APPROVED AND LABELLED

Connector

Contact your Local electrical wholesaler or jobber for circular and prices, or write

COLUMBIA METAL BOX CO.
250 E. 143rd STREET NEW YORK 51, N. Y.

If you write maker identify as IEN-7009



BURT FREE-FLOW FAN VENTILATOR PROVIDES ECONOMICAL DOUBLE-DUTY VENTILATION

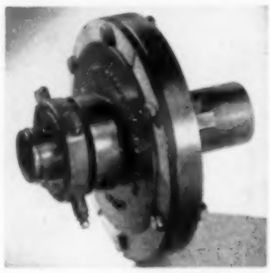
When normal exhaust needs are not extreme, the Burt Free-Flow Fan Ventilator serves efficiently as a gravity unit. But when production operations create high temperatures or excessive fumes, dusts, etc., its Axial Flow Airfoil Fan exhausts impurities approximately six times faster. Positive ventilation is assured at wide differences of temperature, pressure and volume. For further details see Sweet's or write for Bulletin SPV-10A.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company
909 So. High Street, Akron 11, Ohio

If you write maker identify as IEN-7010

EDGEMONT "K-E" DISC CLUTCH



—for stub or through shaft mounting on gasoline engines, electric motors, speed reducers, et cetera. Extended sleeve model illustrated, also available in cut-off coupling model. Both types available for shaft sizes up to 1 1/4". Bolted in split friction disc feature enables disc replacement without dismounting clutch or riveting. Clutches operate with light pressure—no grab. Rated at .8 HP at 100 rpm. they are self-locking when engaged, and have positive threaded steel adjustment. Write for Bulletin K-2.

THE EDGEMONT MACHINE CO.
2200 HOME AVENUE • DAYTON 1, OHIO

If you write maker identify as IEN-7011

FEDERAL HORNS save precious time too!

Warnings, alarms, routine plant signals . . . Federal vibratory horns perform them all superlatively . . . and give you the added advantage of following short, quick code impulses which enable you to page your executives and foremen above heavy industrial noises . . . eliminates "searching parties" . . . outperforms gong signals.

Write for Federal's Industrial Signals Catalog now. There you'll find a complete line of heavy-duty, precision-built horns, one of which will be ideal for your application.

FEDERAL ENTERPRISES, Inc.
Formerly Federal Electric Company, Inc.
8745 South State Street Chicago 19, Illinois

If you write maker identify as IEN-7012

ENAMELSTRIP

STEEL · ALUMINUM · BRASS · PRE-FINISHED COLOR COIL

assures a perfect finish before fabricating

You can easily cut production time and cost with Enamelstrip, the continuous-feed, pre-colored metal coil. Leading manufacturers of metal products are using it with outstanding results in a wide variety of items. Enamelstrip's exclusive, flexible finish withstands the stresses of drawing, bending and forming without cracking or peeling. Many companies have entirely eliminated their finishing departments! Any metal in any finish will be coated and slit to your own specifications.

Write TODAY for detailed color bulletin.

THE COATED COIL CORPORATION
511 West 30th Street, New York 1 • LOngacre 5-3161

If you write maker identify as IEN-7013

Announcing a New and Better INFRARED Generator

CHROMALOX Electric RADIANT PANELS

Now, more efficient far-infrared comes in convenient pre-engineered panels, reducing oven building to a matter of determining heat requirements and assembling panels to fit the job.

Chromalox Electric Radiant Panels generate more uniformly absorbed far-infrared heat with quick heat-up and reduced oven lengths. Work temperatures to 700° F. are easily obtained with accurate "dialed" control.

It's the far-infrared wave length that makes the difference.

9 WAYS BETTER For Baking, Drying, Curing and other applications.

1. Longer wave length absorbed equally fast by all colors.
2. Shatter-proof construction—nothing to break and contaminate.
3. Non-diminishing output from all-metal Chromalox tubular heat generators.
4. Uniform heat—no hot or cold spots.
5. High intensity radiation—with more watts per square foot.
6. Quick heat-up with energy transformed instantly into heat on the work.
7. Low-cost oven assembly.
8. Infinitely variable output—from 0 to 100% of capacity.
9. Additionally safe for any work involving volatiles.

Now—OVEN BUILDING SIMPLE AS A B C

It's easy to build ovens of any desired height and length with Chromalox Electric Radiant Panels. Panels come in 1 x 4 ft. and 2 x 4 ft. sizes, ready to erect and connect. Chromalox on-the-spot engineering assistance to help determine your needs in yours without obligation.

Get this Bulletin

It contains complete information, specifications and application ideas for the use of Chromalox Radiant Panels. Write for your copy today.

Radiant Heating Division: EDWIN L. WIEGAND CO.
7585 Thomas Blvd., Pittsburgh 8, Pa.

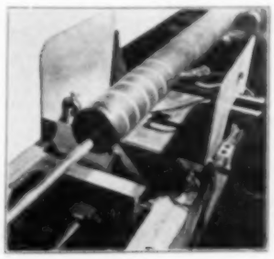
CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN-7015

GAGE . . X-ray equipment checks wall thickness at ends of pipe

Source: INDUSTRIAL GAUGES CORP.
42 Grand Ave., Englewood, N. J.



Available to order

Seamless pipe that has been formed and straightened is moved into position on rolls which rotate at a speed of 60 to 120 rpm. for wall-thickness test by means of the company's new X-ray gage. An X-ray unit and a probe are moved axially to scan as much as 5 ft. from the pipe end to find where wall thickness meets specified requirements as the point at which the pipe can be cropped in a subsequent operation.

The probe rides inside the pipe. The X-ray unit rides outside it in protected position so there is no danger to a nearby operator. Both are carriage mounted for axial movement.

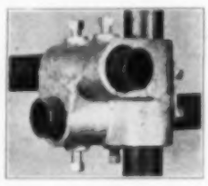
The X-ray beam is about ⅝ in. in diameter. It passes through the pipe and the signal received from it by the probe, depending upon wall thickness, is converted into an electric signal. This is amplified to actuate an indicating meter and also to control a mechanism by which a paint line is sprayed on the outside as long as the wall thickness is less than the predetermined standard. The sprayed line will be a spiral due to the axial carriage movement. The end of this line is the point to crop.

A complete set-up includes two of the checking assemblies, one for each end of the pipe, to operate alternately for the 5 ft. checking distance. Thickness range that can be handled is from 0.05 to 1.5 in. on accuracy within 1 per cent. The standard design will handle pipe measuring 3 in. or larger in inside diameter. Smaller sizes can be checked with special probes.

If you write maker identify as IEN-7016

SCAFFOLD . . Three way fitting makes secure assembly with 1 in. pipe

Source: AMIDON ENGINEERING CO.
38-367 Cleveland Road, Elyria, Ohio



To build a scaffold

Pipe openings stand at three 90-deg. positions in this new scaffold fitting. Each is equipped with two set screws to secure 1-in. pipe in desired positions. When placed first on a vertical pipe the other two holes will take two horizontal pipe at right angles to each other. When placed on a horizontal pipe the other two holes will take two pipes for diagonal bracing. Typical assembly is illustrated.

The fitting serves for any desired combination of horizontal, vertical and angular arrangements in erection of a scaffold to a given layout. There is also a two-way unit that acts as a clamp to hold two pipes together at 90 deg. with each other and a sleeve fitting that will assemble two pipes end to end against an internal central shoulder. Scrap pipe can be used. No threading is required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-7017

Did You Know That . . .

Your company is continuously invited to send information on all new and improved products which you develop for use in industry to Editor Bill Irish for editorial description in this publication at no cost or obligation.

What does your company have that's new or news for industry?

Have it sent now to . . .

W. E. IRISH, *Editor & V. P.*

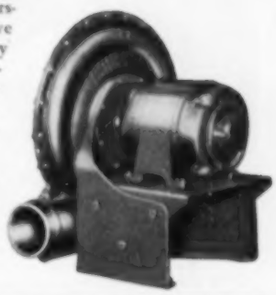
INDUSTRIAL EQUIPMENT NEWS
THOMAS PUBLISHING COMPANY
461 EIGHTH AVENUE NEW YORK 1, N. Y.

If you write maker identify as IEN-7018

MULTIPLE-UNIT BLOWING means FLEXIBILITY and ECONOMY
• in furnace draft
• in line boosting

with "Buffalo" "E" BLOWERS

Several of these heavy-duty cast iron blowers-exhausters will give you greater flexibility and economy of operation than a single large blower, on jobs requiring constant air pressures over a wide range of capacities. 12 sizes, up to 5500 cfm and pressures up to 2 lbs. WRITE FOR BULLETIN 3014-D.



BUFFALO FORGE COMPANY
490 BROADWAY BUFFALO, NEW YORK
PUBLISHERS OF "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities

If you write maker identify as IEN-7019

MOVE IT Easier...

UP HERE
DOWN HERE
. . . OR OVER HERE

with the SERVICE LIFTABLE

A hand truck, it rolls easily on Forgeweld Casters and Wheels. A lifter, it handles a ton with a few turns of a crank. A work table, it is adjustable, portable and has a sturdy steel top. Top is 26" x 43", raises from 28" to 42" with 2000 lbs. capacity. Use it in positioning dies, leveling work for press or mill, or in any of the "liftable" applications in your plant. Write today for full information.

• SEE SERVICE FOR SPECIALS

Service Liftables, Levelers and Electraulic Lifters range widely in capacity, size and performance characteristics. Versatile design permits most Service Lifting Equipment to be made up as low cost semi-specials to suit your needs.

INDUSTRIALS Made BAKER and SUPER

SERVICE CASTER & TRUCK CORP.
Executive Offices: Albion, Michigan
Plants at Albion, Michigan & Somerville 43, Mass.
See Your Classified Telephone Directory For Nearest Distributor

If you write maker identify as IEN-7020

UNBRAKO SHOULDER SCREWS

Preferred by diemakers everywhere, but widely used for linkage, trunnion mountings, shafts and numerous other applications throughout industry. Shoulders are held to close tolerances, threads and head are concentric with the body, screws are threaded close to the shoulder. Write for descriptive literature. STANDARD PRESSED STEEL CO., Jenkintown 14, Pennsylvania.

SPS recommends *Standards*—¼" to ¾" available from your local UNBRAKO distributor's stock.

UNBRAKO SOCKET SCREW DIVISION SPS JENKINTOWN PENNSYLVANIA

If you write maker identify as IEN-7021

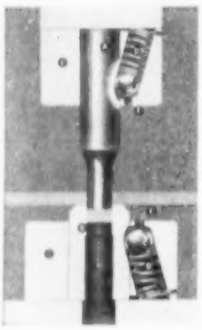
Every roll sealed in cellophane stays factory-fresh. Ask your dealer for this handy package of the tape that goes further, wraps right, lasts longer. Jenkins Bros. (Rubber Div.), 100 Park Ave., New York 17.

JENKINS GoldSeal Tape FRICTION RUBBER

MADE BY JENKINS BROS MAKERS OF FAMOUS JENKINS VALVES

If you write maker identify as IEN-7022

You Save Time with
R-B PUNCHES and DIES



How They Work

R-B punches (A) and die buttons (B) are locked in standard or special retainers (C) which are mounted on the die shoes. A spring-loaded ball lock (D) produces positive radial alignment and vertical locking; no additional keying is necessary regardless of the size or shape of the punch. Up to ¾" stock can be pierced. R-B punches and dies are easy to insert; push and twist and they're locked. They're easily removed, too. Retainer holes (E) provide for insertion of tanged tool which releases ball and allows instant removal.

How They Save Time

IN DIE DESIGNING

R-B standardized retainers are available in three shapes and many sizes, and where necessary, R-B special retainers can be supplied. You save "time on the board" because you are working with standardized equipment.

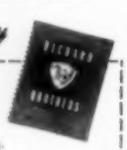
IN DIE CONSTRUCTION

R-B punch and die retainers and special retainers are quickly, easily and accurately mounted without special machining. With them, you can save much of your skilled die-maker's time.

IN DIE OPERATION

HERE'S WHERE YOU *REALLY* SAVE. R-B punches and dies cut press down time for replacement to a minimum. They're instantly removed—quickly changed—yet accurately aligned when locked.

Get the Whole R-B Story



ALLIED PRODUCTS CORPORATION
RICHARD BROTHERS DIVISION
Dept. 63 • 12615 Burt Road • Detroit 23, Mich.

Please send me your 52-page free catalog.

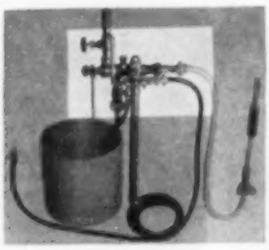
NAME _____ TITLE _____
COMPANY _____
ADDRESS _____

Also Produced in Allied's Four Plants . . .
HARDENED AND PRECISION GROUND PARTS • STANDARD CAP SCREWS • SPECIAL COLD FORGED PARTS • SHEET METAL DIES • ALLITE DIES CAST OF ZINC ALLOY • JIGS • FIXTURES

If you write maker identify as IEN-7024

CLEANING . . Pressure jet equipment delivers solution and then hot water

Source: SELLERS INJECTOR CORP.
1638 Hamilton St., Philadelphia 30, Pa.



It washes and rinses

Chemo-Jet is new design of the company's hot-water jet equipment previously described IEN-6311-50. It adds a separate inlet for hose connection to a supply of cleaning solution. It enables the operator to deliver a pressure jet of 150 gph. of hot undiluted solvent to dissolve encrusted dirt and then to follow this action with a jet of high-pressure hot water to flush away the solvent film and dissolved soil. The water jet can be delivered at a rate to 1,000 gph. The equipment connects to plant steam and cold-water lines in which the steam line will deliver 30 to 100-lb. pressure. Delivery temperature is from 130 to 180 deg. in normal operation.

If you write maker identify as IEN-7025

ADHESIVE . . Cold set-up cement for polishing wheels and abrasive belts

Source: SCHAFFNER MFG. CO.
49 Herron Ave., Pittsburgh 2, Pa.

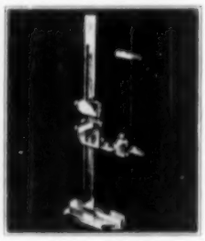
Test sample on request

New abrasive can be applied on worn polishing wheels and abrasive belts by means of this new Grip Grain cold-setting cement. Application follows a cleansing operation to remove old abrasive from the wheel or belt. This is followed by sizing in which a portion of the cement is thinned with water. Undiluted cement is then applied to the surface to be followed by the abrasive. Drying takes place in air but can be hastened by heating to 200 deg. F. in a suitable oven. The cement applies with abrasive grain No. 20 to No. 320.

If you write maker identify as IEN-7026

GAGE . . Precision vernier unit measures work height to 10 inches

Source: TRANSOCEAN TRADING CO.
6451-55 Santa Monica Blvd., Los Angeles 38, Calif.



New height gage is a companion unit to the company's vernier caliper, previously described IEN-5105-51. It is made of tool steel hardened, ground and lapped. The base is heavy for safe balance. The beam measures $\frac{3}{8}$ in. in thickness to provide strength and rigidity. The assembly includes an adjustable vernier plate, a depth rod and offset scribers. List price in a velvet-lined leather case is $72.

All Makers of Those And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-7027

A PAID NEWS ADVERTISEMENT BY FISHER SCIENTIFIC CO.

COMPRESSION & FLEXURE TEST UNIT handles wide range of materials

"Flat Crush" and "column compression" tests of paper and corrugated board can be quickly handled by a new instrument offered by Fisher Scientific Company. The unit also handles compression tests of cases, drums, cartons and containers in conformance with standards of the Technical Association of the Pulp and Paper Industry. It can be used in general compression testing of springs; and makes flexure of tests of plastics, glass, ceramics, insulation board, plywood, asbestos-cement shingles, and carbon-brush materials. Tests are made by placing material between two platens, manipulating two simple controls, and reading a large linear load scale. The upper platen supplies the compression force. It rides four rigid upright posts; is driven downward by motor-powered screws; can be set to travel at any desired speed up to 2½ inches a minute. The lower platen activates the weighing mechanism. Small and compact (24" x 20" x 30" high), the unit handles specimens up to 12" x 12" x 10" high through a range of 0 to 1,000 pounds.

For further information on the new Multi-Purpose Compressions Tester, write **Fisher Scientific Co.**, 717 Forbes St., Pittsburgh 19, Pa.

If you write maker identify as IEN-7028

New Shadograph Precision Units to Select and Classify Rotating Parts . . .

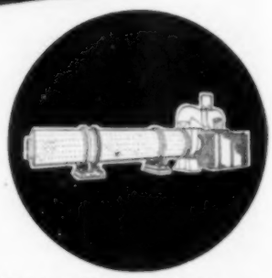
If you are selecting and classifying high-speed rotating parts such as buckets used in gas turbines for jet plane engines investigate the new Shadograph models expressly built for solving this problem. Two models are now available: (1) Model #4112-A (illustrated), a special laboratory balance using a calibrated variable counterweight; (2) Model #4102-B (not shown), a production model, with counterweights, beam and dial calibrated directly in moment weight units. For complete details covering these essential production tools write to address below.

EXACT WEIGHT SCALES
Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

If you write maker identify as IEN-7029

If your problem is
DRYING



RUGGLES-COLES ROTARY DRYERS

There are six distinct types of Ruggles-Coles double and single shell Rotary Dryers, designed for direct, indirect and steam heat. Modifications of these standard types are also made to take care of peculiar drying problems which cannot be handled by standard equipment. Bulletin 16-D-38.

HARDINGE
COMPANY, INCORPORATED

YORK, PENNSYLVANIA—240 Arch St. Main Office and Works
NEW YORK 17 • SAN FRANCISCO 11 • CHICAGO 6 • HIBBING, MINN. • TORONTO 1
122 E. 42nd St. 24 California St. 205 W. Wacker Dr. 2016 First Ave. 200 Bay St.

If you write maker identify as IEN-7030

The HANDY KNURLER

Save set-up time, operations and parts...Use Handy Knurler for individual knurling jobs—also for certain types of production work.

HAND OPERATED LIKE A PAIR OF PLIERS

HANDY KNURLER is used with lathe or drill press. Or hold work in vise and rotate Knurler around it. Concentric and off-center surfaces knurled with precision. Worn and undersized armature shafts, axles, spindles, pins enlarged to permit parts to be re-used. Knurled surfaces may be machined. Deep-cut grooves retained to hold lubricants.

★ Quality heat-treated steel, blued for rust-protection. No other tool like it. Knurler complete with set of 3 knurl rollers for medium diagonal patterns $12.50 postpaid. Different patterned rollers—$3.60 for set of 3. Order direct, or write for literature.

M.P.A. CO., 1678 W. 17th PL., LOS ANGELES 6, CALIF.

If you write maker identify as IEN - 7031

USE RESISTANCE WELDING TO STREAMLINE PRODUCITON

WS WF

Ohio Nuts for Project Welding

Thread Sizes	Thread Sizes
6-32 to ½-20	6-32 to ⅝-24

Material—Low Carbon Steel

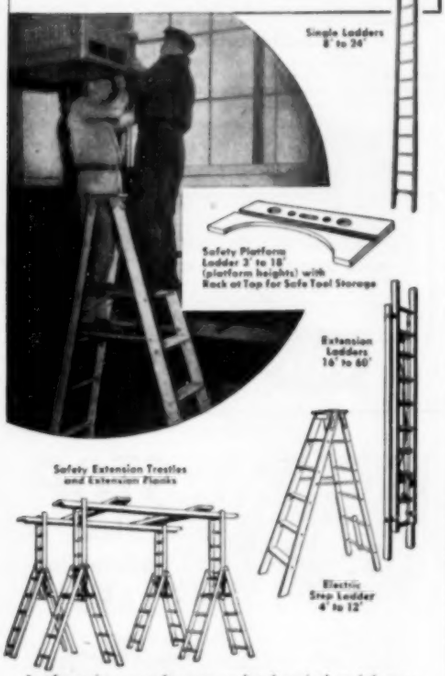
Samples and information about Ohio nuts for projection welding available to accredited concerns.

THE OHIO NUT & BOLT COMPANY
604 Front Street, Berea, Ohio

If you write maker identify as IEN - 7032

Cost Less Per Year...because They Last YEARS Longer

GOLD MEDAL LADDERS AND TRESTLES



In factories, warehouses and other industrial properties, service and maintenance men demand Gold Medal Ladders and Trestles because they are stronger, safer and withstand hard usage for years longer. Made of the finest, selected woods, they're skillfully made in a large, modern factory by one of the oldest organizations in the field—with more than seventy years' experience.

Types and Sizes for Every Need

You can put your men at the most convenient working height *in greater safety* with Gold Medal Ladders—single, extension and step types—some of which are illustrated—*in a wide range of sizes.*

Used in thousands of plants. See how they can help you . . . write for new Catalog L-71.

Ladders, Scaffolds for any Purpose—Any Place—Any Time

For Greater Safety...Efficiency...Economy

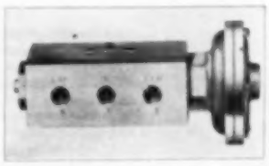
THE PATENT SCAFFOLDING CO. Inc

38-21 12th Street, Dept. IEN, Long Island City 1, New York

If you write maker identify as IEN - 7034

VALVE . . Two five-way assemblies low pressure piloted, air or liquid

Source: C. B. HUNT & SON INC.
1919 E. State St., Salem, Ohio



Air operates pilot

A pneumatic diaphragm is employed in this new assembly of the company's Quick-As-Wink pneumatic or hydraulic control valve to operate a short-stroke pilot that, in turn, applies pressure to position the main valve plunger. The valve is designed for installations where available air pressure, as from an instrument, is limited to 12 to 35 lb. for the pilot operation. The new assembly is a companion to the solenoid-operated design, previously described IEN-2355-50.

The pilot valve and diaphragm have negligible mass in their moving parts and so are suited for high-speed cycling. Also they are free from impact action. Movement by pressure on the diaphragm is in one direction only. A spring under the diaphragm push-plate permits open-end exhaust if desired. The stainless-steel plunger is hollow with radial ports. The valve housing is made of aluminum.

The main valve carries ⅛ or ¼-in. pipe connections in two to five-way arrangement. It is suited for use with air, oil or water at line pressure to 125 pound. It also can be employed in vacuum service and at temperatures not over 150 deg. F. which forms a practical working maximum.

If you write maker identify as IEN - 7035

PUMP . . Eccentric rotary design for corrosive fluids, gases to 20 gpm.

Source: VANTON PUMP CORP.
7308 Empire State Bldg., New York 1, N. Y.

No packing glands

Two new sizes rating 10 and 20 gpm. on free delivery have been added to the company's line of pumps, previously described IEN-6814-51. The new units are suitable for operation to 55 and to 70 lb. per sq. in. respectively. The new line now includes 7 sizes with free delivery at ½ to 20 gpm. based on operating speed of 1,750 rpm.

The drive shaft, carrying an eccentric, is mounted in sealed ball bearings in metal end plates that bolt on the two sides of the body block. The shaft eccentric rides inside the eccentric pumping member. Rotation produces a rolling action between this member and the block bore to draw fluid in at the inlet and carry it around the bore for delivery at the outlet. Inlet is at the right-hand connection for clockwise rotation.

Both new pumps employ a polyethylene body and can be equipped with a natural or synthetic-rubber pumping element to handle corrosive fluids such as sulphuric, hydrochloric, nitric, hydrofluoric acids and caustics.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7036

Send for this new booklet —it tells how you can help out in the emergency facing the nation.

Many thousands of manufacturing plants now face serious shortages of steel and products made of steel.

Unless the steel mills and foundries get more *scrap* iron and steel, it will be impossible to meet current demands for both military and civilian production.

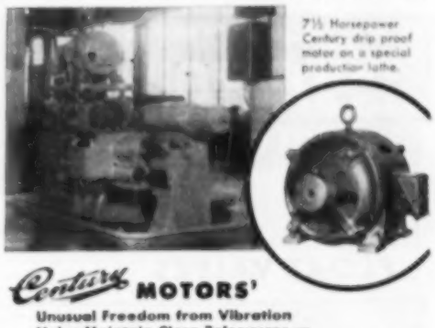
You have the needed scrap—in the form of "idle" iron and steel: obsolete machinery, no-longer-usable jigs and fixtures, chain, gears, pulleys, pipe, etc.

Set up a Scrap Salvage Program in your plant* and help keep the steel coming! Non-ferrous scrap is needed, too!

*For copy of "how-to-do-it" booklet, address Advertising Council, 25 W. 45 St., New York 19, N. Y.

INDUSTRIAL EQUIPMENT NEWS

If you write maker identify as IEN - 7037



7½ Horsepower Century drip proof motor on a special production lathe.

Century MOTORS'

Unusual Freedom from Vibration Helps Maintain Close Tolerances — with a Minimum of Rejects

Century motors are designed to help you get the accuracy that was built into your modern production machines. They are ruggedly built, carefully machined and well balanced both mechanically and electrically.

You may select Century motors in: open drip proof — splash proof — or totally enclosed fan cooled construction to assure uninterrupted production against various atmospheric hazards.

They are built in a wide range of sizes from 1/8 to 400 horsepower. Specify Century for all your equipment.

CENTURY ELECTRIC COMPANY
1806 Pine Street, St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

CENTURY SERVICE Is Near Any CENTURY Motor Driven Equipment

If you write maker identify as IEN - 7038

Use a P&H AC Welder

—the only welder with Instantaneous Control

Ideal for use with inert gas. Lets you handle "hard-to-weld" metals with ease — aluminum, magnesium, brass, copper, stainless, high carbon, high alloy, and low carbon steels.

A touch of your toe instantly gives you the exact heat you need — there's no time lag! And there's no burn-back to oxidize the metal before you get started.

Only the P&H Inert Gas Welder saves production time these five ways: (1) Foot switch automatically starts power, high frequency, gas, water. (2) Arc starts instantly without touching work. (3) Foot control instantly provides exact heat needed *while* welding. (4) Foot switch cuts power and high frequency immediately or gradually at completion of weld. (5) Automatic time delay shuts off gas and water.

There are more outstanding P&H AC Welder features. Ask your P&H representative to tell you about them — or write us for further information. 2427A

P&H WELDING DIVISION
HARNISCHFEGER CORPORATION
4520 W. National Ave.
Milwaukee 46, Wis.

POWER SHOVELS • CRAWLER AND TRUCK CRANES • OVERHEAD CRANES • HOISTS • ARC WELDERS AND ELECTRODES • SOIL STABILIZERS • DIESEL ENGINES • PRE FABRICATED HOMES

If you write maker identify as IEN - 7039

HALLOWELL

"740" STEEL CART

has LOOKS for store and office
STAMINA for shop and factory

The "740" carries everything from stationery and supplies to tools and dies. Its *large capacity* saves countless steps and time. Its *compact design* is made for narrow aisles and limited space.

THE "740" FEATURES

- detachable handle—use it either end
- two trays with deep sides for safe handling—16" x 30" or 24" x 36"
- legs with unique double-angle construction—for extra strength without extra weight
- ball bearing caster races—make steering easy
- sturdy, free-rolling casters—make pushing easy

Write for Literature

STANDARD PRESSED STEEL CO.
Jenkintown 14, Pa.

Shipped Knocked Down . . . IT'S EASY TO ASSEMBLE

HALLOWELL MATERIALS HANDLING DIVISION **sps**
JENKINTOWN, PENNSYLVANIA

If you write maker identify as IEN - 7040

For Dependable Flow Control!

THE DAVIS NO. 60 FLOAT VALVE

. . . use DAVIS FLOAT VALVES

ENGINEERS interested in working out efficient, trouble-free fluid level and flow control hookups will find a wide choice of units offered in the Davis line of float valves, float boxes, and fluid control valves.

For Float Valve dependability the Davis No. 60 is unexcelled. Here are a few of its outstanding features:

1. The Famous Davis Single-Seat Pilot Stem Valve! Tight-closing and non-sticking. Standard sizes will open against any pressure up to 125 lbs.
2. No internal packing! Disc renewable easily and economically. Hot or cold liquid at high or low pressure handled without hunting or water hammer.
3. Sizes 3" and smaller are all-brass valves. Larger sizes have semi-steel body, bronze bonnet, piston and trim. Globe or angle body patterns. Send for Bulletin 101-B.

DAVIS REGULATOR CO., 2529 S. Washtenaw Ave., Chicago, Illinois

DAVIS REGULATOR COMPANY

If you write maker identify as IEN - 7041

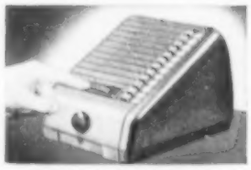
why **WALK?** *just push a button... and* **TALK!**

• Countless dollars are wasted every day when employees leave their work to reach people in other departments! Executone Intercom gives everyone *instant* contact with everyone else.

Helps Step Up Production — With Executone, everyone is *always* within talking distance—*without taking a single step!* With the speed of sound, questions are answered, information exchanged, material ordered and personnel located. With people on the job, you get *more* work done *faster!* Every working hour becomes more productive for you and your employees.

Cuts Operating Costs — Executone relieves the switchboard of all "inside" calls, frees phones for receiving important customer calls. Executone quickly pays for itself with increased production and efficiency.

get the facts



Executone *intercom systems*

EXECUTONE, INC., Dept. F-4
415 Lexington Ave., New York 17, N. Y.
Without obligation, please let me have:
☐ The name of your local distributor.
☐ Free descriptive literature.
NAME _____ TITLE _____
FIRM _____
ADDRESS _____ CITY _____

In Canada — 331 Bartlett Ave., Toronto

If you write maker identify as IEN - 7043

CLEANING . . Abrasive blast machine also tumbles the work load, discharges

Source: PANGBORN CORP.
230 Pangborn Blvd., Hagerstown, Md.

Roll door closes front

New design of the company's Rotoblast barrel-type cleaning machine is known as Type GN. It is available in two sizes with 6 and 12 cu. ft. capacity. It represents improved design over previous units in the line of equipment.

The conveyor slats that assemble to form the tumbling wall are designed to turn on the pitch line of their sprockets so the distance between slats is always the same at any point in the curved travel path. This prevents passage of wire or chill nails into the track where operation could be affected. Drive is by means of V-belts and a gear reducer mounted directly on the work-conveyor shaft. Reversing control permits tumbling with conveyor movement toward the rear or discharge when the conveyor is driven toward the front. A safety release disengages the drive in the event of overload for any reason. It operates in loading and unloading directions.

Additional improvements include a door made of woven wire mesh backed with vulcanized rubber. It slides on rollers and is operated by a hand crank and brake. A quick-acting work loader is available to deliver a complete load into the machine. Control centers at a panel at one side of the housing. The two machine sizes measure about 7 by 6 by 14 ft. and 8 by 10 by 15 ft. in overall dimensions.

Abrasive is handled in a closed circuit. It is picked up, cleaned, reclaimed and returned to a storage container ahead of the centrifugal wheel. Its flow is controlled by an orifice plate. Equipment in the circuit includes a rotary scalper to remove large fragments, a screen through which the abrasive drops, an elevator-type conveyor that lifts the abrasive to a separator where sand and spent abrasive are drawn out and the good abrasive drops back to the container to be used again.

If you write maker identify as IEN - 7044

FIREPROOFING . . Bituminous coating for application on vertical wood surfaces

Source: ZONE CO.
915-19 N. Main St., Fort Worth 6, Texas

In 5-gallon pails, 30 and 55-gal. drums

Fireplate trade names a new incombustible material to brush or spray on vertical surfaces of wood structures to protect these surfaces against combustion in the event of contact with fire. The material is a new development supplementing the company's Libbey-Zone protecting material for horizontal surfaces. It will not run off when exposed to heat.

The formula includes bituminous materials, a fire-retardent chemical, a plasticizer and asbestos, the latter forming an incombustible mat over any surface to which the coating is applied. The solvent vehicle in which the materials are carried is itself non-inflammable and is capable of releasing fire-retardent gases when it is heated and evaporated.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7045

Star has 'em WHEN YOU WANT 'EM!

STAINLESS STEEL FASTENINGS OF ALL TYPES *RIGHT OFF THE SHELF*

In-Stock-Service on Small or Large Quantities • Cap Screws • Machine Screws • Sheet Metal and Wood Screws • Set Screws • Nuts, Washers, Etc.
Class 3 AN Drilled Fillister Heads
Fast service on special screw machine products.

WRITE, WIRE OR PHONE TODAY
New Catalog just off the press
write for your copy today.

Star STAINLESS SCREW CO.
212 Union Avenue • Paterson 2, N. J. ARmory 4-1240

If you write maker identify as IEN - 7046

COOL TOOLS WORK BETTER, LONGER

COOL TOOLS BEST WITH FULFLO

CENTRIFUGAL COOLANT PUMPS

HERE'S WHY FULFLO BELONGS ON YOUR EQUIPMENT:

- constant pumping action
- spring tension packing
- no bearing in shaft
- carbon seal, if desired
- automatic adjustment

Direct or motor drive. Capacities: ½ hp 25 gpm to 1 hp 90 gpm.

MODEL FVM vertical
MODEL FHM horizontal
Flanged mounts; ⅙ hp; 30 gal. per min., mechanical seal.

SEND TODAY (on your letterhead) for FULFLO MECHANICAL DATA BOOK.

FULFLO THE FULFLO SPECIALTIES CO. Inc.
BLANCHESTER, OHIO

If you write maker identify as IEN - 7047

DEFY oil and chemicals

The patented Double Triangle deflected nut threads make GRIPCO *Lock Nuts* lock tight onto the bolt, in spite of oil, water or chemicals. Even if they're soaked in oil, they'll still hold! GRIPCO Lock Nuts stay locked until removed with a wrench, and can be removed and reapplied again and again, without appreciable loss of locking effectiveness. GRIPCO Lock Nuts go on *fast* and stay *fast!*

Beat vibration, too On applications where vibration is a factor, follow the example of leading manufacturers and standardize on GRIPCO Lock Nuts. Their locking power is not lessened, and their tenacious grip is not loosened by vibration, tension, pressure and shearing forces.

GRIPCO LOCK NUTS

GRIPCO PILOT-PROJECTION WELD NUTS
Also applied fast. The pilot positions the nut quickly and accurately, and is instantly attached by resistance welding.

GRIPCO COUNTERSINK WELD NUTS
Weld Fast! The slanting "countersunk" section catches loose metal particles and slides them down the slanting "countersunk" surface away from the threads. No re-threading required!

GRIPCO WELD NUTS *are furnished with either lock or plain threads.*

GRIP NUT COMPANY
310-S S. Michigan Ave., Chicago, Illinois

If you write maker identify as IEN - 7048

STOP Hand Hacksawing LABOR

Use **HAND-I-HACK**** PORTABLE POWER HACKSAW

Muscle is the most expensive power known and it produces the least satisfactory results. Especially in hacksawing!

Stop this time waste and drudgery—Use HAND-I-HACK. It will do most hacksawing jobs usually done by hand—because it works in any position, can be carried anywhere to the job, quickly pays for itself in labor saving and improved work. Capacity 3" x 3". Write for catalog and name of dealer.

*One man's energy output approx. 40W

**Trade Mark Reg. U.S. Pat. Off.

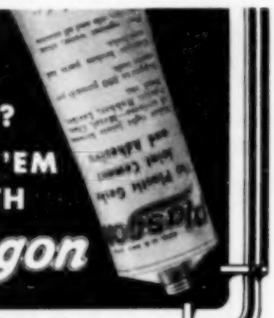
Lipe-ROLLWAY CORPORATION

If you write maker identify as IEN - 7049

LEAKY PIPE JOINTS?

SEAL 'EM WITH

Plasgon



Pipe joints sealed with Plasgon *can't* leak. Because Plasgon — the *flexible* pipe joint cement — stays flexible. Constant jars and shocks won't loosen Plasgon. Proof against all common solvents . . . oil, gasoline, kerosene, steam, water. Stands heat up to 350° F . . . resists considerable pressure.

Plasgon forms gaskets too . . . quick and easy to use . . . just squeeze it out of the tube.

Write Today for *Free Sample* of Plasgon and complete information.

Samuel Cabot, Inc.
633 Oliver Bldg., Boston 9, Mass.

If you write maker identify as IEN - 7050

FABRICATED SCREENS STRAINERS

TO YOUR SPECIFICATIONS

• PRODUCTION RUNS

• HIGH QUALITY

NEWARK offers a "complete package" service in the design and manufacture of fabricated woven wire parts. We design and manufacture screens and strainers for all types of service; for handling oil, water, gasoline, air, corrosive gases or steam.

We manufacture the wire cloth, thus insuring its accuracy; we also do all the necessary cutting, forming, soldering, stamping, punching, welding and seaming. In other words, it's a NEWARK job from start to finish.

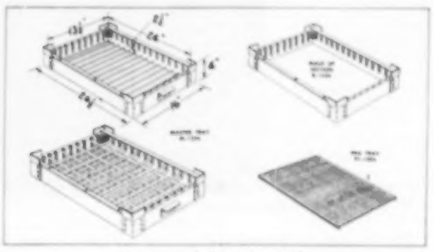
Newark Wire Cloth COMPANY

351 Verona Avenue • Newark 4, New Jersey

If you write maker identify as IEN - 7052

HANDLING . . Sectional tote box adjusts to varying work requirements

Source: ALBERT WESLING & SONS INC.
2910-14 W. Lake St., Chicago 12, Ill.



Sets up and changes quickly

Hardwood box with hardwood dowels for a bottom and steel corners for reinforcement and secure stacking forms the basic unit for this new sectional tote box. The dowels are on 1½-in. centers and are located 2¾ in. below the box top. The inside ends are slotted on 1½-in. centers to take additional dowels above the bottom to act as lengthwise spacers. Similarly the sides are slotted, in staggered location with the bottom, to take spacer dowels between the sides. Work placed between them will be supported by the bottom dowels. Angle-shaped handles are provided on the two ends to complete this part of the equipment.

A duplicate section, except for the bottom dowels and the end handles, can be stacked in any required number on the base unit to form a tote box of desired height. A peg board made of ¼-in. tempered wood with 880 spaced holes fits inside the box. It forms a base for very small pieces. Shouldered pegs can be set in on which to center work.

The base unit lists at $6, each build-up section at $5.50 and each peg board at $2. Bundles of 200 of the long dowels list at $65 per thousand. The short dowels, to span across, list at $35 per thousand and the pegs, packaged 5,000 to a carton, list at $12 per thousand.

If you write maker identify as IEN - 7053

PROTECTING . . Cup type goggle for flying chips, dirt, liquid splash

Source: FENDALL CO.
4629-33 N. Western Ave., Chicago 25, Ill.

Meets Federal Specifications

The eye cups in this new goggle are made of molded plastic, opaque or transparent. They are perforated for ventilation and carry air passages in connection with the lenses to minimize fogging. The cups are not subject to attack by moisture or perspiration. They are formed to accurately fit on the right-hand and left-hand sides of a wearer's face. Connection is made by a ball-chain nose bridge with a lever-type lock for adjustment. The lens rings are made of anodized aluminum. A flexible headband completes the assembly. Standard lens size is 50 mm. Six types of lenses are available for given applications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7054

This Is A War Child..

You can help her, or thousands like her by becoming a Foster Parent . . . It cost only $15 a month. You will receive a case history and photograph of the child. Correspondence through our office is encouraged.

For further information write:

FOSTER PARENTS' PLAN FOR WAR CHILDREN
55 West 42nd St., New York City 18

If you write maker identify as IEN - 7055

KUSHION-TORQ
WHAT IT WILL DO FOR YOU

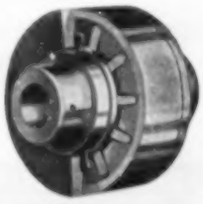
The Cushion Torque of Kanti-Lever Couplings absorbs the hammer blows of sudden or reversing loads and dampens the torsional and radial vibration that causes wear, fatigue and sometimes failure of Motors, Speed Reducers, Ball Bearings and productive machinery. No other coupling is like the Kanti-Lever: It has a circular series of laminated Cantilevers of 200,000 lb. steel, operating in slots, the tapered sides of which automatically stiffen the Cantilevers under increased overloads. Special end-play up to four inches is possible without end thrust. The outer periphery of the Kanti-Lever is available as a brake drum for quick-stopping or reversing machinery.

Send for Bulletin No. 28-N.

Kanti-Lever Couplings

4,000,000 h.p. in Use

MFRS. OF SECTIONAL STOCK RACKS



BROWN ENGINEERING CO.
122 NORTH 3RD ST. READING, PENNA.

If you write maker identify as IEN - 7056

CLOSE-TOLERANCE CASTINGS HIGH YIELD PRODUCTION

Castings need only a minimum of machining when produced by the "C" process. Tolerances as close as .003 to .005 inches per inch can be achieved. The thin, light molds, made of fine-grained sands bonded with BAKELITE Phenolic Resins, have almost pattern-smooth surfaces, providing castings of better finish.

This means greater economy for you—money saved—by reduction of costly machining and finishing operations, by fewer rejects and less waste metal.

Properly applied to your needs, the use of shell molds made with BAKELITE Phenolic Resins offers a new way to meet production goals with faster output and lower costs. Ask your foundryman about including the process in your plans. Or, write Dept. DO-14.

BAKELITE
TRADE MARK
PHENOLIC BONDING RESINS

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.
In Canada:
Bakelite Company (Canada) Ltd., Belleville, Ont.

If you write maker identify as IEN - 7058

Yes! THRIFTMASTER makes ALL TYPES of DRILLHEADS

Universal Joint Drillhead . . . Full Ball or Bronze Bearing Construction. Standard and Heavy Duty. From ½" Minimum Centers up. Capacities to 1" in Steel.

Gear Driven Electric Type Adjustable Drill Head . . . Enclosed, Full Ball Bearing Construction.

Special Fixed Center Drillhead . . . Full Ball Bearing Construction.

- We Stock or Can Build the Right Drillhead for Your Job.
- Write for THRIFTMASTER Complete Catalog or phone for a rush, on-the-spot, quote.

Subsidiary of Thomson Industries, Inc.

THRIFTMASTER Products Corporation

1008 N. Plum Street
Lancaster, Penna.

Also Makers of
DORMAN AUTOMATIC REVERSE TAPPERS

If you write maker identify as IEN - 7059

ONE . . Good Way TO SAVE PRODUCTION TIME

KESTER SOLDERFORMS

For Soldering with flame, carbon-resistance, oven, induction and conventional iron

DIMENSIONAL STABILITY Every single Kester Solderform is made exactly to specification. What's more . . . they are delivered that way to you, in perfect condition, because of Kester's scientific packaging.

Write for sample assortment or test samples for your specific job.

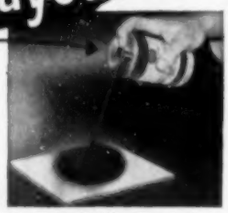
KESTER SOLDER COMPANY
4211 Wrightwood Ave., Chicago 39
Newark 5, New Jersey • Brantford, Canada

KESTER SOLDER

If you write maker identify as IEN - 7060

Now Spray On design layout ink

"JUST PRESS THE BUTTON ON THE CAN"



Faster! Easier!

No brush, no waste, no mess! Self-pressurized can sprays on CROWN Design Layout Ink in fine mist that dries to hard surface in a minute. Dark blue is standard—other colors on volume purchases.

ORDER TODAY!
$1.59 PER 12-OZ. CAN
15% discount in cases of 12
Additional discount for larger quantities
FOB-Sycamore Illinois

CROWN INDUSTRIAL PRODUCTS CO.
402 Borden Ave., Sycamore, Ill.

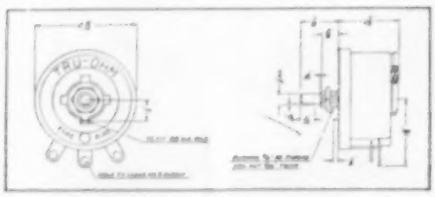
Please ship at once
_____ (how many?) cans
_____ (how many?) cases
CROWN Design Layout Ink

Name_____
Company_____
Our Purchase Order No._____
Address_____
City_____ Zone_____ State_____

If you write maker identify as IEN - 7061

RHEOSTAT . . Circular design rates 50 watts on constant duty

Source: TRU-OHM PRODUCTS
2802 N. Milwaukee Ave., Dept. IEN, Chicago 18, Ill.



Designed to "take it"

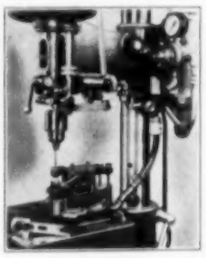
The resistance wire employed in this new power rheostat is toroidally wound on a deep core. A torsion-spring assembly provides uniform pressure with a contact brush against the winding. Current flows from the brush through a flexible shunt to a slip ring. Positive contact is maintained against the center terminal by a compression spring. Back lash in the rotating assembly is minimized by the new design. A positive stop is provided at the extremes of rotation to act independently of the contact-arm assembly.

The new unit is available in a range of capacities minimum to 0.5 ohm and 10 amp. in approximately 22 steps maximum, to 10,000 ohms. and 0.07 amp. in approximately 720 steps. Base diameter is $2\frac{3}{16}$ inches. Shaft rotation is through 300 degrees. The ¼-in. shaft projects ½ in. beyond the bushing. The ceramic metal construction is designed for satisfactory service at extreme operating temperatures.

If you write maker identify as IEN - 7062

DRILLING . . Pneumatic work fixture grips and releases as spindle moves

Source: PORTER PRECISION PRODUCTS
P. O. Box 99-A, Cincinnati 31, Ohio



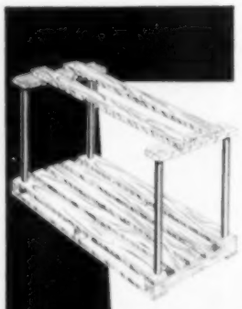
About $92 complete

For-Matic is a new air-operated work fixture to secure to the table of a drilling machine rating ½-in. capacity. It connects through an operating valve that mounts on the side of the machine head in connection with a pressure regulator to take air from a shop line. Downward movement of the drilling-machine spindle admits air to the cylinder built into the fixture. This results in moving the head carrying the drill bushing down to clamp the work. Continued downward movement of the machine's spindle then feeds a drill to complete its operation. On retracting the drill the air is released, the head moves upward and the finished piece can be removed to place a new one.

The fixture will take work from ⅛ to 1 in. in section with drill capacity to ½ inch. Changing from one job to another requires only a minute or two of set-up time due to the adjustable design of the work-holding head, the position stop and the adjustable movement of the main head.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7063



NATIONAL Develops Revolutionary NEW, RIGID RACK PALLET

Serving industries' Largest Users of Pallets from Coast-to-Coast & Border-to-Border

Stacks better — without sway . . . More Accessible—more usable space—no cross braces . . . No special pipe necessary — use your own rejects and buy National base and top; can be used for regular Pallet when not in Rack service . . . Ideal for storage and handling of speed boats, maps, pails, furnace units, tires, furniture. Costs about ⅓ the price of other Pipe Rack Pallets.

Wire, phone or write today for complete technical data. Dept. E.N.

NATIONAL PALLET CORP.
MAIN OFFICES: OLIVER BLDG. PITTSBURGH 22, PA.

If you write maker identify as IEN - 7064

Checkerette

Thick "knock-down" wardrobe rack answers almost any "wraps" problem, because it can be set up anywhere in a few minutes without nuts, bolts or tools . . . can be disassembled and stored in small space when not in use. It is ideal for installation near point of work, occupies only 1' x 4' floorspace; is ideal for company cafeterias, offices, laboratories and meeting rooms.

It will hold wraps by day and shop coats at night and keep both aired and dry.

Modern, efficient designs, welded steel construction, rigid in use (all members held under tension).

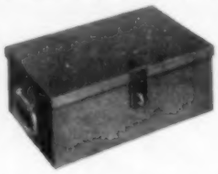
Write for Circular CT 05

VOGEL - PETERSON CO.
624 So. Michigan Ave., Chicago 5, Ill.

If you write maker identify as IEN - 7065

SPARE PARTS BOXES

MADE TO JAN-B-233
JOINT ARMY-NAVY SPECIFICATIONS



With or without internal framing partitions

Type "M" (Metal)

Fabricated and finished in strict compliance with Government specifications. Made in all nominal and special sizes.

WRITE, WIRE OR PHONE FOR PRICES ON YOUR SPECIFIC REQUIREMENTS

COLUMBIA METAL BOX CO.
250 E. 143rd St., New York 51, N. Y.

If you write maker identify as IEN - 7066

Speed Way Speed Sander

Motor Driven 3/16" Orbital Motion

$34.50

Makes a hundred tedious jobs fast and easy. Will sand to the bare wood or metal, featheredge, or smooth and polish to a "piano finish."

Powerful direct-connect, 3450 r.p.m. 110 v., A.C. air-cooled motor. No gears, nor gear-housing to collect grit and dust. Sealed ball-bearing thruout. Cast-aluminum body and chrome plated—in hand weight only 5 lbs. Natural grip, all-position handle with sliding thumb switch and 3 wire rubber-covered cord.

Sands Cleans Smooths Polishes

Three 4¾" x 6½" coverings cut from standard 9" x 11" abrasion sheet.

WRITE FOR CIRCULAR
Speed Way MANUFACTURING CO.
1885 So. 52nd Avenue • Cicero 50, Illinois

If you write maker identify as IEN - 7067

If you write maker identify as IEN - 7068

IMMEDIATE DELIVERY

on RCA high-frequency

ELECTRONIC GENERATORS

for soldering, brazing, heat-treating

Available Today . . . NOW. For immediate shipment from RCA, Camden, N. J., direct to your plant. High-frequency electronic generators in sizes of 15 and 75 KW for induction heating of metals.

Big, sturdy high-power units. These generators are heavy-duty "work horses," built to stand up under long, tough production schedules. Time-tested designs. One-unit construction for compact, easy, space-saving installation. Built and backed up by RCA . . . pioneer in high-frequency heating. Nationwide service available through RCA Service Company.

Do you need applicators, too? RCA has developed dozens of different applicators for electronic heating. Ask us about our proved designs . . . chances are there is one already worked out to fit your needs.

Generator stock limited. Act NOW. Production of RCA electronic heating units is being stepped up to meet ever-increasing demand. But even so, the supply of completed units for immediate delivery is definitely limited. So if you need electronic heating equipment NOW . . . then NOW is the time to act.

Contact RCA at once. Get your order in fast. First come, first served. Do it NOW.

More Information? Mail Coupon TODAY

RCA Engineering Products Dept. 141F, Camden, N. J.
Without obligation, please air-mail me complete information on your RCA electronic heating equipment *available for immediate delivery,* for the application stated below:

To be used for _____
KW power required _____
Name _____ Title _____
Company _____
Address _____
City _____ State _____

RADIO CORPORATION of AMERICA
CAMDEN, N. J. INDUSTRIAL EQUIPMENT SECTION

If you write maker identify as IEN - 7070

RESISTOR . . Also acts as fuse to protect against harmful overload

Source: MILWAUKEE RESISTOR CO.
708 W. Virginia St., Milwaukee 4, Wis.

Details upon request

Fusistor trade names a new combination resistor and fuse available at present in two power ratings of 5 and 10 watts. The unit serves as a resistor under normal conditions to handle overloads 2½ times normal operating current. It melts to open the circuit following a predetermined time delay, maximum at 2 min., when the overload, also predetermined, is exceeded. The unit is wound on an asbestos strip and is coated with high-temperature cement. It is available with wire leads or connecting jacks.

The smaller of the two sizes available now measures 1⅛ by ⅜ in. at the ends. It is ¼ in. in thickness in the body. The 10-watt size measures 2 by ½ in. and is the same in thickness. Resistance value is minimum at 4.5 ohms. There is no flame or spark at the point of melting.

If you write maker identify as IEN - 7071

WELDING . . Flux for aluminum and stainless steel, paste or powder

Source: ALL-STATE WELDING ALLOYS CO.
271-5 Ferris Ave., White Plains, N. Y.

Designation is Number 35

New flux for application in connection with torch-welding operations on aluminum and stainless steel is available as a paste or a powder. It protects the metal on each side of the weld area and floats impurities out of the weld puddle to keep it clean. It spreads thinly ahead of the welding flame, will not flake off and leave the surface unprotected or break down at temperatures required to weld stainless steel.

If you write maker identify as IEN - 7072

PROTECTING . . Grounding conductor prevents static build up on a worker

Source: WALTER G. LEGGE CO.
101 Park Ave., Rm. 338 N. Wing, New York 17, N. Y.

New bootie made of cotton sail cloth with a conductive sole has been added to the metal plate, chain and elastic garter previously described IEN-1838-50. The new combination device costs about one-half as much as conductive shoes and can be worn safely over ordinary shoes by men and women workers. It is made in three sizes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7073

Time, Labor and Money Saved with PREFABRICATED

NATIONAL EVER-READY SECTIONAL WOOD SHELVING

(PATENT PENDING)

For economical storage, warehousing and stock rooms in commercial and industrial locations. Permits of unlimited expansion. Unskilled labor can erect or dismantle a section in less than five minutes!

Made of finest quality woods, each 3' section guaranteed to support 1½ tons. The super tension principle and the four steel latches and bar at end of each shelf assure greatest strength and rigidity. Shelves are adjustable to any height from 2" up. No bolts, screws, nails or other fastening devices are required for National Shelving. When not in use 300 lin-al feet of shelving can be stored in a space of 8' x 6' x 8'.

PROMPT DELIVERY
Manufactured exclusively by
The NATIONAL CORPORATION
Orange, New Jersey, U. S. A.

If you write maker identify as IEN - 7074

. . . by using

Motch & Merryweather

Triple-Chip Saw Blades!

In both the segmental type for larger work and the solid type for smaller work, Motch & Merryweather Triple-Chip Saw Blades give the same proven advantages: speed *and* accurate lengths *and* square, burrless ends with minimum scrap *and* long life *and* last low cost. 8" to 84" diameter . . . The top advantage: *Triple-Chip turns cuts into dollars.*

• *For advice and quick service, talk with your local Motch & Merryweather dealer.*

THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING • CLEVELAND 13, OHIO
COMMAND OUR UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

If you write maker identify as IEN - 7075

Roll flexible Floorsteel out like a rug over your present floor . . . fill its rugged steel grid with concrete or mastic . . . and you have a solid, level, enduring "path" that the heaviest loads roll over, easier. Cracks, ruts and potholes will never snag your truck wheels again! Floorsteel stays smooth, quiet and non-skid, for loads rest on its exposed steel edges—not on the concrete. Easy to lay, maintenance-free. Send for our informative, illustrated bulletin today!

Ask about Klemp Hextool heavy-duty surface armor.

KLEMP METAL GRATING CORP.
Steel Flooring Specialists
6603 SO. MELVINA AVENUE • CHICAGO 38, ILLINOIS

If you write maker identify as IEN - 7076

large or small

METSO®

for all clean-ups

If you have a clean-up job as big as a locomotive, Metso can do it. For removing gummy oil deposits from locomotive boilers (open type feed water heaters) ½ oz. of Metso Granular per gallon of water is used . . . or if your dirt removal problem is oily ink from printer's type, again Metso leaves the metal surface clean.

Here is Metso's special cleaning efficiency . . . removes dirt and prevents its re-deposition on the clean surface. Specify Metso on your next order for clean-up. Conveniently packed in 100 lb. bags or 300 lb. drums.

Philadelphia Quartz Co., 1131 Public Ledger Bldg. Philadelphia 6, Pa.

METSO *detergents*

If you write maker identify as IEN - 7077

HOW TUTHILL HELPS YOU

Fit the Pump to the Need...

Not the Need to the Pump!

The Tuthill line of positive displacement internal gear rotary pumps is so flexible that you can find just the pump to fit your need for lubrication, coolant, hydraulic service and liquid transfer. There are mechanically sealed pumps—automatic reversing models—pumps with internal by-pass feature—and stripped models that can be built directly into the design of your equipment. So why attempt to fit the need to the pump?

The new Tuthill Pump Guide provides a quick reference chart to help select the right oil pump for your job.

WRITE FOR YOUR COPY TODAY!

TUTHILL PUMP COMPANY
939 East 95th Street, Chicago 19, Illinois

If you write maker identify as IEN - 7078

B.F.Goodrich

Extra-heavy loads to handle?

How many power trucks do you operate?

Use hand trucks in your plant?

TIRE AND WHEEL ANALYSIS saves you up to 50%

YOU can cut tire and wheel costs up to 50% on many materials handling job by using the right type, size and tread compound and following our suggestions. Proper maintenance alone cuts costs 30% to 20%. Let a trained B. F. Goodrich Tire and Wheel Analysis man look over your operations. Without charge or obligation he'll make impartial recommendations—impartial because only B. F. Goodrich makes industrial tires to meet *every* requirement.

Use the coupon for complete information on this new Tire & Wheel Analysis Plan.

A similar plan is available for manufacturers of industrial handling equipment.

The B. F. Goodrich Co.
Department TW-180
Akron, Ohio

Please give me additional information on your new Tire and Wheel Analysis plan.

Name_____
Title_____
Company_____
City_____ State_____

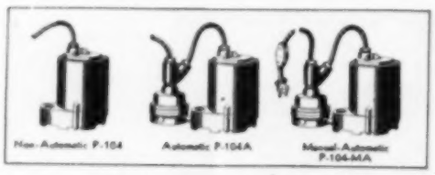
B.F.Goodrich

BFG dealers sell and service a complete line of industrial tires.

If you write maker identify as IEN - 7080

PUMP . . Centrifugal design, submerged operation with sealed motor

Source: KENCO INC.
1123-27 N. Ridge Road, Dept. 25, Lorain, Ohio



For liquid transfer, coolant circulation

Model P-104 is a new size in the company's line of submersible centrifugal pumps in which the ball-bearing motor is hermetically sealed in a bronze or cast-iron housing to operate in oil. The open-type impeller is mounted on the motor shaft and operates inside a foot-equipped housing that provides bottom clearances for liquid entry.

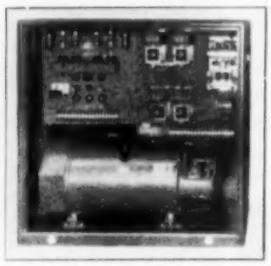
Discharge is at a ⅜-in. pipe-threaded port facing upward. Rating is 1,000 gph. on free delivery. Maximum head against which the pump will operate is 9 feet. The motor rates ⅛ hp. and can be specified for operation on 110 or 220-volt 60-cycle ac. Operating speed is 1,550 rpm.

Three control arrangements are available. One, supplied by the user, to consist of an on-off switch for remote location. The second includes diaphragm control of the motor circuit depending upon varying liquid level. The third combines the diaphragm control and a remote toggle switch. Overall dimensions are 7¼ in. in height, 5¾ in. in one horizontal direction and 4¾ in. in the other. The motor enclosure diameter is 4⅞ in. for the new assembly.

If you write maker identify as IEN - 7081

DRIVE . . Operation control for electronic variable speed drive

Source: RELIANCE ELECTRIC & ENGINEERING CO.
1111 Ivanhoe Road, Cleveland 10, Ohio



Controls speed change

Type VSC is a new control panel designed to assemble into the company's Type-VS variable-speed drive, previously described IEN-637-41. The new assembly is available for drives rating from 1 to 300 hp. By means of adjustable rheostats on the panel, it is possible to set or alter the time required to change for a low speed to a high speed or vice-versa, to preselect the sequence of operation.

By application of one or more additional rheostats, various speeds can be predetermined for a cycle of operations. In each case the change from one speed to another will be set on the interval rheostats in any amount between 1½ and 25 seconds. All of the rheostats can be grouped together or mounted individually to meet given requirements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7082

AUTOMATIC PROTECTION OR CONTROL for your heating process

...WITH

ALNOR PYROTAC

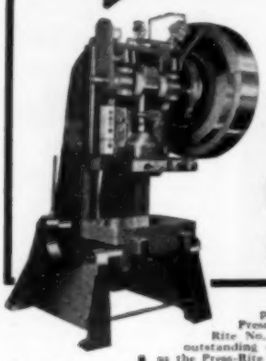
Here's a simple, low-cost way to obtain *AUTOMATIC PROTECTION* against damage due to excessive temperatures . . . safeguard your investment in heating equipment and materials in process. This precision-built instrument constantly indicates temperature of the heated equipment and sounds an alarm and/or shuts down the heated circuit at a safe, pre-set temperature. It may also be used as a *CONTROLLER* on a process requiring shutdown upon reaching a final process temperature—such as ceramic kilns, molds, etc. Automatic thermocouple break protection assures safety if couple or extension wires should break.

Ask your Alnor representative for details on this sturdy, precise instrument. You'll find the price of less than a hundred dollars unusual for an instrument of this type. Write for bulletin that contains complete description and wiring diagrams of actual applications. Illinois Testing Laboratories, Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN - 7083

NEW! PRESS-RITE NEW!



60 TON POWER PRESS

NOW . . . a 60-ton power press with all the famous Press-Rite features! The Press-Rite No. 60 is loaded with such outstanding engineering developments as the Press-Rite Airflex Clutch-Brake System . . . Uni-Cast Frame with Built-In Tie Rods . . . Non-Repeat Single Stroke Mechanism . . . Triple Ramway Lubrication, and many others. Available in either flywheel or back-geared models. Shut heights and strokes are optional.

For blanking, forming, drawing, punching or stamping . . . . to investigate the Press-Rite No. 60.

Write for Complete Information . . . TODAY!

Sales Service Machine Tool Co. SSMT
PRESS-RITE PRESSES • SHAPE-RITE SHAPERS • KILLER POWER HACK SAWS
2365 UNIVERSITY AVENUE • ST. PAUL W4, MINNESOTA

If you write maker identify as IEN - 7084

More BIG Jobs ...for TRENT "Folded-and-Formed" Heating Elements

TELEVISION

Custom-built "Folded-and-Formed" Heating Element Racks used in 180 ft. long Television Tube Annealing Oven. Continuous operation under critical temperature control.

CHEMICAL PROCESSING

Preparing to install custom-built "Folded-and-Formed" Heating Element Racks in one-half of Split Jacket for 19 ft. Vertical Tower used in special chemical processing at 1200° F.

Write for Bulletin 81-T

"Folded-and-Formed" Heating Elements are also available in Standard Racks, 12" x 12", for easy installation in your own equipment. 5-Year Guarantee.

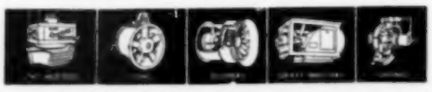
TRENT INC
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE. PHILA. 27, PA.

If you write maker identify as IEN - 7085

What is the BIG difference between revolving and fixed unit heater discharge outlets?

WING REVOLVING UNIT HEATERS are successfully solving the heating problems of thousands of industrial plants today because they assure a uniform comfortable temperature throughout, with no hot blasts, no cold spots, no chilly corners. Instead of annoying hot blasts, the worker is conscious only of a pleasing sensation of fresh, live invigorating warmth.

L. J. Wing Mfg. Co. 160 Vroeland Mills Road Linden, New Jersey



If you write maker identify as IEN - 7086

MAINTENANCE MEN!

GET THE FULL STORY ON HANNIFIN'S

NEW Pilot-Master Air Control Valves!

Fewer Valves to Stock. Same valve operates either 2-way or 3-way, normally open or normally closed. 4-way valves also available. Pilot valves for remote control.

Fewer Parts to Stock. Every moving part of main or "master" valve fits in an easily removable cartridge. NO SPRINGS! Two sizes of cartridge fit all 5 valve sizes. Pilot heads (solenoid or pressure operated) fit any size valve.

Solenoids Easily Serviced. The specially designed solenoids can be disassembled to replace the coil, or to install a coil of another voltage.

All Sizes From ¼" to 1¼" I.P.S.
Pressures From 15 to 150 P.S.I.
Write for Bulletin 231 and get the complete story!

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Ill.

If you write maker identify as IEN - 7087

MONARCH

Mono-Cushions

It's a burly cushion tire made of tough, wear-resistant stock—all the way through. When you need a high capacity for absorbing shock and shock load Mono-Cushions are your best buy—even more desirable where loads are fragile and floor surfaces are rough.

The leading manufacturers of materials handling vehicles use Monarch Tires as original equipment. The manufacturer of your vehicles can supply you, through his distributors, with Monarch Tires engineered for your application.

THE MONARCH RUBBER COMPANY
381 LINCOLN PARK, HARTVILLE, OHIO
DETROIT OFFICE, 7-255 GENERAL MOTORS BLDG.

SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

"I WISH I HAD"

(Continued from page 124)

SURPLUS . . "I wish we had a buyer for 200 NEMA VIII submersible cabinets which we are holding in storage in Milwaukee, Wis. They are an over-run on a Navy contract and were originally built to house radio equipment on shipboard. They have an end opening which is gasketed and a Dzus fastener to make them watertight when closed. They have built-in 12 volt dc. blower and coaxial leads." **IEN W-60**

SURPLUS . . "I wish we had a buyer for our LaPointe No. 3 broach which we have working in a precision shop in Massachusetts. It is in first-class operating condition and is complete with motor, switch and accessories." **IEN W-61**

SURPLUS . . "I wish we had a buyer for 1,300 oval-shaped high speed steel rotary milling cutters now held in storage in Midland, Mich., as surplus from a cancelled war order. The heads measure 1 by ⅝ in. oval. They are drilled and threaded $\frac{5}{16}$ in. 24." **IEN W-62**

SURPLUS . . "I wish we had a buyer for a Bellis 1800-deg. F. salt bath furnace measuring 30 by 30 by 48 in. and rating 100 kva. It is complete with electrical equipment and has been in use for about 7 months, in Bellefonte, Penna." **IEN W-63**

SURPLUS . . "I wish we had a buyer for 200,000 $\frac{5}{16}$ by ⅝ in. hexagon-head lead-coated bolts and nuts. The stock is in storage in St. Paul." **IEN W-64**

SURPLUS . . "I wish we had a buyer for 52,000 pieces of hard gray felt, Grade F-3, size ⅝ by ⅝ by 7½ inches. The material is in original cartons in San Francisco." **IEN W-65**

If you write maker identify as IEN - 7089

ELEVATOR . . Motor driven unit for loads to 6 ton, lift to 17 feet

Source: SERVICE CASTER & TRUCK CORP. 552 Service Ave., Albion, Mich.

From 8 to 23 fpm.

Six strands of No. 80 roller chain support the platform in this new Four Post Lifter. The chains ride over sprockets mounted on vertical hydraulic rams. Hydraulic pressure is supplied by a motor-driven pumping unit assembled at one side. The platform is made with a non-skid steel top. It is guided by the four corner posts and is protected against dropping by post rings which act as wedge brakes in the event of chain failure.

Ten ratings in the line range from 1 to 6 ton. Maximum lift for the smallest unit is 17 feet. It is 10 ft. for the largest one. Platform dimensions range from 5 to 12 ft. in both width and length. Control centers at momentary-contact pushbuttons at an operator's position.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7090

A PAID NEWS ADVERTISEMENT BY REMINGTON RAND

PREVENTIVE MAINTENANCE

—folder describes simplified low-cost control system

A new folder describing a highly effective system of preventive maintenance control is offered by Remington Rand.

The system described in this folder is working successfully for many industrial firms, large and small, in all fields. The folder shows how to avoid costly down-time, by a near-automatic method of scheduling periodic check-ups, thereby extending the productivity and life of motors, machines, and equipment. Another important benefit: you make deliveries on time . . . build customer good will.

Especially remarkable, the folder shows how some firms do a *better* maintenance job with *lower* inventories of parts and supplies. You'll see ample evidence too that these desirable results are obtained simply . . . often with less clerical help than is normally needed. A copy of this folder, KD705, may be obtained by writing direct to Remington Rand, or by using the Reader Service Form herein.

REMINGTON RAND INC.
Management Controls Library, Room 1164
315 Fourth Ave., New York 10, N. Y.

If you write maker identify as IEN - 7091

Introducing VALVAIR'S NEW Spring-Centered NEUTRAL VALVES

STOP FAST . . . HOLD Double-acting Air Cylinders in ANY POSITION!

Valvair's new spring centered neutral valve is for air, hydraulic or vacuum service; for pressures up to 300 p. s. i. Sizes: ¼" through 1". Control assembly can be knob, lever, treadle, cylinder or solenoid.

Write for Bulletin KQ-6.

VALVAIR CORPORATION, 949 Beardsley Ave., Akron 11, O.
Affiliate: Sinclair-Collins Valve Company

Rely Upon Valvair

If you write maker identify as IEN - 7092

Here is the pair for clean, dry air . .

JOHNSON AFTERCOOLER
Used where moisture is vaporized by the heat of compression. Circulates cooling water around the line, condenses the oil and water vapor so Separator can remove them. Simple in design, highly efficient in performance.

SIZES FOR ALL NEEDS

JOHNSON SEPARATOR
Removes more than 99% of all water, dirt and oil from compressed air or steam. Combines the two best principles of separation—first allows air to expand slightly, then changes flow direction with the "Thousand Baffles". Model illustrated is the newest idea in separator design, with self-draining trap mechanism built right in.

WRITE FOR BULLETIN

The Johnson Corporation
846 Wood Street, Three Rivers, Mich.

If you write maker identify as IEN - 7093

CALL THE PLUMBER?
NOT WHEN YOU USE

STONHARD STONTITE

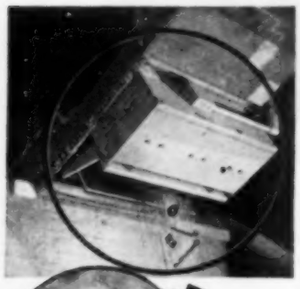
To Seal Active Leaks In Underground Walls!

. . . you call upon the STONHARD Company to supply the correct solution. STONITE is designed to stop active leaks and water-seepage in Basements, Tunnels, Dams, Foundations, Elevator Shafts and Pits. These leaks can cause untold loss in deterioration and mildew, yet the simple application of STONTITE seals them even from the open side. There's no need for costly excavation; your own men can do the job. Write TODAY for full information.

STONHARD COMPANY
Building Maintenance Materials Since 1922
102 Stonhard Bldg., 1306 Spring Garden St., Philadelphia 23, Pa.

Yes, I want details on STONHARD STONTITE 102/6/52
Name
Company Title
Address
City Zone State

If you write maker identify as IEN - 7094



PROTECT YOUR MACHINERY!

Just four hours of operation recovered this amazing amount of tramp iron at the Fleischmann Malting Company with a Stearns Electro-Magnetic Spout Type Separator. Protect your machinery, avert possible shut-downs and costly repairs — remove all the tramp iron with a Stearns separator.

For complete specifications and operating data on Stearns Electro and Permanent Magnetic Spout Type Separators, write for bulletins.

Foremost in the Magnetic Field
Stearns MAGNETIC INC.
626 SOUTH 28th STREET • MILWAUKEE 46, WISCONSIN

If you write maker identify as IEN - 7095

Trims up to $47 a month from power bills with GE CAPACITORS

A West Coast meat packing plant which uses 500 hp of induction motors to run its processing equipment had a power factor that seldom got above 81%. Rebates on the plant's power bill were down to about $3 a month.

Power factor raised from 81% to 96%. Then G-E engineers recommended the installation of 60 kvar of G-E capacitors at a total cost of $355.50. Power factor rose to better than 96% and stayed there. Rebates, which now amount to $45—$50 every month, paid for the capacitor equipment in less than 9 months. *And these savings will go on indefinitely.*

Key to lower power costs. This West Coast plant is just one of the many that are cutting power costs with capacitors. If your power factor is below 85% and if there is a power-factor or kva-demand clause in your power contract, chances are you can make similar savings. Your local G-E sales office or authorized G-E agent or distributor can help you—or write to Section 407-208 for booklet GEA-5632—"How to Use Capacitors to Reduce Power Costs and Gain System Capacity." *General Electric, Schenectady 5, N. Y.*

GENERAL ELECTRIC
407-208

If you write maker identify as IEN - 7096

50% MORE POWER!

That's what this speedy, new B&D SCRUGUN has to boost its capacity from No. 10 to No. 12 wood screws! And it also gives you a new handle shaped for plenty of finger room—light weight (only 5¾ lbs.), and amazing compactness (only 9" overall) to cut fatigue—husky, high-quality parts for *continuous* operation! See your nearby B&D Distributor for a demonstration, WRITE FOR FREE LITERATURE to: THE BLACK & DECKER MFG. CO., 615 Pennsylvania Ave., Towson 4, Md.

*Trade Mark Reg. U. S. Pat. Off.

LEADING DISTRIBUTORS EVERYWHERE SELL
Black & Decker
PORTABLE ELECTRIC TOOLS

"I WISH I HAD"

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

CHEMIST . . "I wish I had contact with a firm needing the services of a pharmaceutical research chemist with 11 years of experience. I am located in Plainfield, N. J." **IEN W-53**

DESIGNER . . "I wish I had contact with a mature designer of automatic machinery for mass production assembly of small metal and plastic parts. The position under consideration is a permanent one in New York City." **IEN W-54**

ENGINEER . . "I wish I had contact with a manufacturer requiring the services of a chief engineer with 25 years of industrial plant experience. I am in New York State." **IEN W-55**

ENGINEERS . . "I wish we had contact with individuals experienced in tool, die and machine design, in product design and in plant layout. We have a number of openings in our Saginaw, Mich., plant." **IEN W-56**

IRON WIRE . . "I wish we had a source of supply for 1,000 lb. of each of 26 or 28 and 30 gage tinned iron wire. We would prefer to have it enamelled also, but that is not essential. We would prefer Norway or Swedish iron wire. We are located in Los Angeles." **IEN W-57**

PATENT ATTORNEY . . "I wish I had contact with an organization requiring the full time services of a patent attorney and industrial advisor with a technical engineering degree and membership in the Pennsylvania and Federal Bars. I am 31 years of age and am located in Philadelphia." **IEN W-58**

SEALING . . "I wish we had a source for a sealing material that would be immune to the common refrigerants and unharmed by temperatures to 300 deg. F., a material that will seal easily against a metal seat while taking a minimum permanent set. We have tried both nylon and Teflon as well as neoprene without success." **IEN W-59**

(Please turn to page 123)

PLEASE WATCH FOR YOURS

Certain copies of this publication for the next few months will carry a post card on the front page. It is intended for your use to make sure you still want to remain on our mailing list. Please watch for the one with your name on it.

OK or correct your name and address as they appear on the card. Please also check the questions asked. They are simple, self-explanatory, essential to our circulation audit.

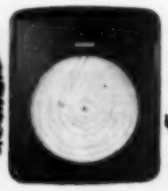
If you write maker identify as IEN - 7097

DeBothezat "Hy-V" Air Jets project a concentrated stream of cool air as far as 35 feet WITHOUT DUCTS. Models available for wall or floor mounting, with fan wheels 18" to 30" in diameter. Capacities up to 12,000 CFM. Send today for FREE CATALOG.

"Hy-V" Air Jets
DeBOTHEZAT FANS DIVISION
American Machine and Metals, Inc.
East Moline, Illinois

If you write maker identify as IEN - 7098

FAST!



6-Point Recording
ON A SINGLE ROUND CHART

THE NEW FOXBORO MULTI-RECORD DYNALOG* gives up to 6 clean-cut records in as many different colors on one convenient round chart . . . all, with only one *measuring system*. An ingenious, foolproof, record-switching arrangement provides recordings in sequence every 6 seconds. Colors positively will not run together. *Available with electric alarm or on-off control for individual points*

The unique Multi-Record Dynalog is available for measuring several temperatures or other process variables. Send for Bulletin 427-1 and see how this highly accurate electronic instrument provides new, money-saving advantages. **The Foxboro Company, 426 Neponset Ave., Foxboro, Mass., U.S.A.**

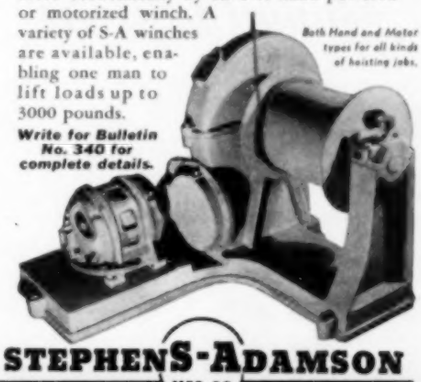
*Reg. U. S. Pat. Off.

Another FOXBORO FIRST

If you write maker identify as IEN - 7099

S-A WINCHES SAVE TIME and MANPOWER

There are many lifting and pulling jobs around a plant which can be handled quickly, safely and more economically by an S-A hand-powered or motorized winch. A variety of S-A winches are available, enabling one man to lift loads up to 3000 pounds.



Both Hand and Motor types for all kinds of hoisting jobs.

Write for Bulletin No. 340 for complete details.

STEPHEN S-ADAMSON MFG. CO.

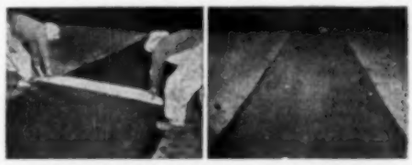
Tellevel-Bin Level Controls • Safe Speed Reducers • Car Loaders • Car Pullers • Winches • SealMaster Ball Bearings

231 RIDGEWAY AVE., AURORA, ILLINOIS

If you write maker identify as IEN - 7100

NEW FLOORS IN 24 HOURS

FLOORS LAID TODAY • READY FOR USE IN 24 HOURS



Install "PERMAFLEX" HARD MASTIC any thickness required over Old Rough Concrete or Wood Floors, Aisles, Platforms, Walks or Drives. INTERIOR OR EXTERIOR. Edges are splayed to a feather edge.

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We Contract for Complete Installations

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OVER 2,000 SATISFIED USERS INCLUDE: General Electric — Westinghouse — U. S. Steel — General Motors — Chrysler — Atlantic Steel — A. O. Smith — Leading R. R. and Warehouse Companies

PERMAFLEX FLOORS ARE

• Heavy Duty • Dustproof • Slipproof • Waterproof • Fire Resistant • Non Tiring • Warm & Quiet • Sanitary

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